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British Trade and Foreign Competition.

IN November 25, 1895, Mr. Chamberlain wrote a despatch with the object of ascertaining the extent to which the generally alleged displacement of British by foreign goods was really taking place in Colonial markets. The returns to that document were recently published in a voluminous blue book. This must for some time to come be a publication of great importance and value. It enables some kind of general view to be obtained of the course of British trade with the Colonies, and it forms a practical guide for traders. While it dispels many of the gloomy statements which have been written on the subject of the decay of British trade, and appears to show that, as a whole, there is no cause for alarm on this point, it yet indicates many weak places which the British trader will do well to bear in mind.

There are, of course, a large number of articles of export with which readers of this journal have no interest; there are others which concern them. But before we say anything upon some points of detail it is desirable to note some of the causes of the displacement of British goods in Colonial markets. One of these is the Merchandise Marks Act, but this is, in truth, rather an alteration of the transit trade than anything else. In other words, Colonial buyers go straight to the foreign producing country. There are other and more important factors to be considered. The chief of these is the cheapness of certain goods. "It is abundantly shown by all the returns that throughout the Empire the cause which principally operates to let in foreign goods is their greater cheapness." As long as the British manufacturer holds the field in regard to the best quality of goods, we may perhaps see the foreigner take the chief place in regard to cheap and inferior kinds of goods without alarm. But when cheapness and good quality go together, then it is clear that, unless opposing interests are more favourably situated, the British manufacturer is being defeated because the cost of manufacture is too high. Again, too, there is always this warning to be found in the fact that the British manufacturer is outbid by the foreigner in cheap articles, namely, that rises in the rate of wages in England, however desirable they may be from the point of view of the operative, may yet have the effect, sooner or later, of actually destroying a trade.

The next cause which operates in favour of the foreigner is that the finish of his goods "is much greater than that of British goods. Finish is independent of quality, and the foreigner has the art of giving a good finish to a low-class commodity, while the British producer keeps finish for the better-class goods. . . . The British manufacturer will always give additional quality before finish." Here perhaps we may see a national characteristic exemplified. The Continental workman is more of an artist than the Englishman. But at the same time we see a weak place, and one which those who advocate the spread of technical education and of art schools desire to see removed.

We now come to another cause, namely, packing. In regard to it "there is a general consensus of opinion that our foreign competitors, and in particular, perhaps, the United States, take much more trouble than we do." They do so in the following ways: by saving space, and therefore freight; by giving greater security during transit; and by giving greater facilities for easy distribution at the end of the transit, so that goods look more attractive in store. An instance of this, among others, is one which may easily be understood. In Victoria, it is said, the British have lost the trade in metal tacks "by failing to pack in cardboard boxes instead of paper parcels."

We must now refer to yet another cause, and that is what is called in the report the greater "adaptability" of the foreigner. "He is ready to consult the smallest man, and always on the look out for new trade in articles however small." Again, "he is ready to give longer terms of credit, and he will give them to smaller people." But in this respect we are inclined to think that the British trader shows sounder judgment: long credit to people of small means is by no means characteristic of a good man of business, and we should doubt if in the long run the British trader would be really benefited by a relaxation of his terms of business. The results of the returns from the different Colonies are thus summed up:—1. "In the best class of goods . . . the British manufacturer is still supreme." 2. "There are certain exceptions to the above rule, chiefly in the case of machinery and tools of certain patterns, and in favour of the United States." 3." "A great portion of the general Colonial market is not one for the best class of goods, and in proportion as cheap and finished imitations of such goods can be put on the market the trade will go away to the producers of such imitations." 4. "There is some danger that when the trade goes to foreign competitors in the cheap goods, a certain proportion of the better class of trade may also be diverted eventually." As we have already said, there is nothing therefore in this to alarm the British manufacturer, but there is plenty to put him on the alert.

Now we will turn for a moment to some points of detail which emphasise and illustrate the general statements which have just been made. We find, under the return from the Cape of Good Hope, the following statement:—"Bolts and Nuts: The American are cheaper in the smaller sizes, and, if anything, rather better in finish. They are also nicely boxed, whereas the British are wrapped in paper. Some patterns made by the Americans are preferred to those made in England" (p. 238). From the same Colony we also find the following answer in regard to furniture, cabinet and upholstery wares:—"Cheap and portable articles have the largest sale in this colony, and although the British manufacturer can produce three-fourths of such goods, he does not give the necessary care required to the packing," p. 237.

From Hong Kong we find this: "Plane irons.—Hundreds of thousands of plane irons come out here for carpenters' use, and the English article is finding a keen competition with the French. The French produce a lighter make, which suits the Chinese labourer better," p. 328. In South Australia we find that American hammers are preferred to those of English make, because their balance is better adjusted, and because the head is fitted to the handle with an adze eye, and the bend of the claw has a quicker curve. It is, in fact, a "handier" article.

We might continue to pick out illustrations in regard to many more articles used in the building trade where the foreigner is dis-

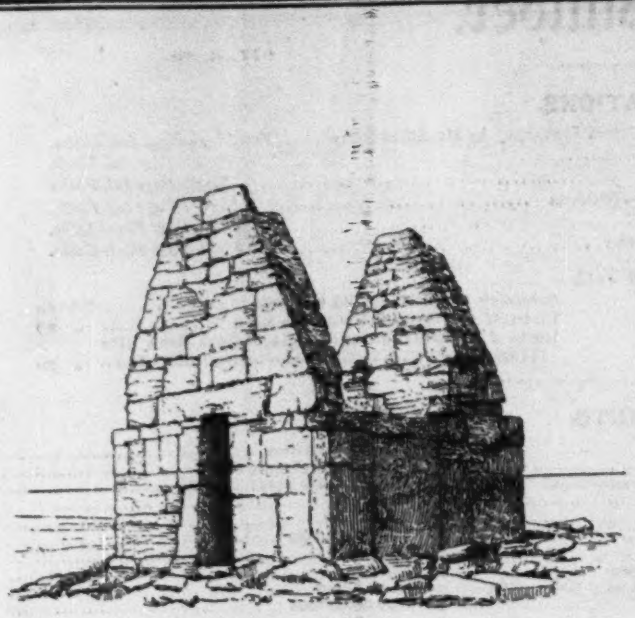


Fig. 18.—Oratory of St. Benen, Greater Island of Aran.

Fig. 20.—Ancient Oratory (St. Declan's) at Ardmore. (The Ardmore Round Tower, a late example of the class, is in the background.)

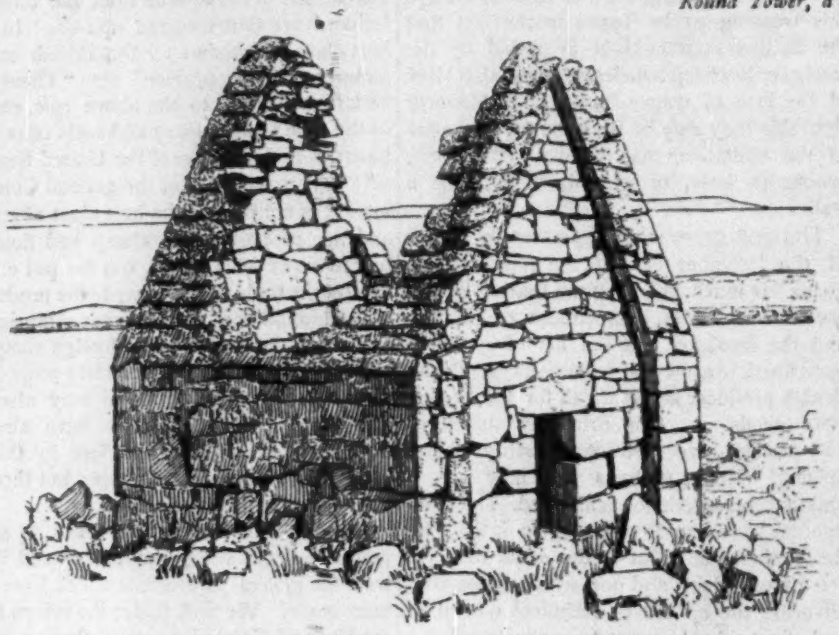


Fig. 19.—Oratory on St. Macdara's Island, off the coast of Connemara.

placing the Englishman. In hardly any instance do we find that the British article is inferior as regards actual material. But the British manufacturer, like the British farmer, is too conservative and too insular, too wanting in adaptability, not sufficiently quick in watching the demands of the colonists and in suiting his wares to special requirements. It is stated in one instance that the lighter tiles, packed also in lighter cases, are pushing out the British tiles, heavier in themselves and packed in casks. When building materials have, as is the case now in Rhodesia, for example, to be conveyed for great distances, lightness is very essential. A man who desires to tile a house at Bulawayo, wishes to do so at a small cost, and has no intention of building a dwelling for his grandchildren; consequently light and cheap articles are most important to him. The British manufacturer has, in truth, only to be less conservative to hold the field, it would seem, for an indefinite period, provided the workman does not wreck the business by demands for, and the obtaining, of too high wages. We sympathise altogether in the demand of the workman that he shall be fairly paid and not be overworked, but he has to bear in mind that he is a factor in regard to the price of an article to the consumer in the colonies, and in many instances if his demand goes beyond a certain point he may ruin both himself and his employer, or, at any rate, close the market for a particular class of goods.

THE ANCIENT ARCHITECTURE OF IRELAND.

CONSIDERED ESPECIALLY IN RELATION TO PRE-CONQUEST BUILDINGS IN ENGLAND.

By Professor Baldwin Brown.

IV.

SOME of the most interesting features of the Irish churches now under consideration have still to be noticed, and these features belong to the domain not of planning but of construction. We deal here with the question of Irish stone construction, which has been already touched on in connexion with primitive oratories, such as Gallerus.

All through this early mediæval period, and on into the twelfth century, the primitive method of roofing by stone vaults in encorbelment appears either as an actual technique or in the form of survivals. Buildings like the oratory of Gallerus have no walls, unless we take the fact that the lower portion of the structure of Gallerus seems more upright than the upper to indicate some approach to the vertical wall. The slope of the vault begins here, as in other examples of the class, practically from the ground level. The next stage in the constructive development was to begin with an upright wall at the long sides, but to keep it low and throw the chief part of the whole height of the structure into the roof. As an example we may take the little oratory of St. Benen, on the greater island of Aran, shown in fig. 18. It is of minute size, measuring internally only to ft. 9 in. in length by 7 ft. in width, but gains dignity from the use of large blocks of stone. The middle portion of the south wall is formed of a single slab. The side walls are very low, but the gable so steep and high (15 ft.) that from a distance the structure presents the appearance of a cone. The roof is gone, but was probably of stone slabs, and the use of these would explain the slope of the gable. In some of these stone-roofed churches with walls the original stone roof remains entire, as in a small building on Innismurray, or at any rate in part, as in the Irish Romanesque church of Kilmalkedar, dating from the twelfth century. This method of roofing is clearly the cause of the low side walls and lofty gables, and it also gave rise to very curious features in Irish buildings of this class, that at first sight have a somewhat classical appearance. These are upright pilaster-like projections that appear to east and west at the corners of the building, as if they were extensions of the side walls beyond those of the gables. The visitor to Ireland who first sees these thinks of Roman work, but they are purely native, and are clearly connected with the system of roofing already noticed. This becomes evident in those examples where the projections are not confined to the vertical walls, but extend up the gables to their apex, presenting the curious appearance shown in fig. 19. This little oratory is on the island of St. Macdara, off the coast of Connemara, and the photograph from which the drawing has been made has been kindly furnished for the purpose by Mr. R. Welsh, of Belfast, to whom also the writer is indebted for the view of St. Benen's

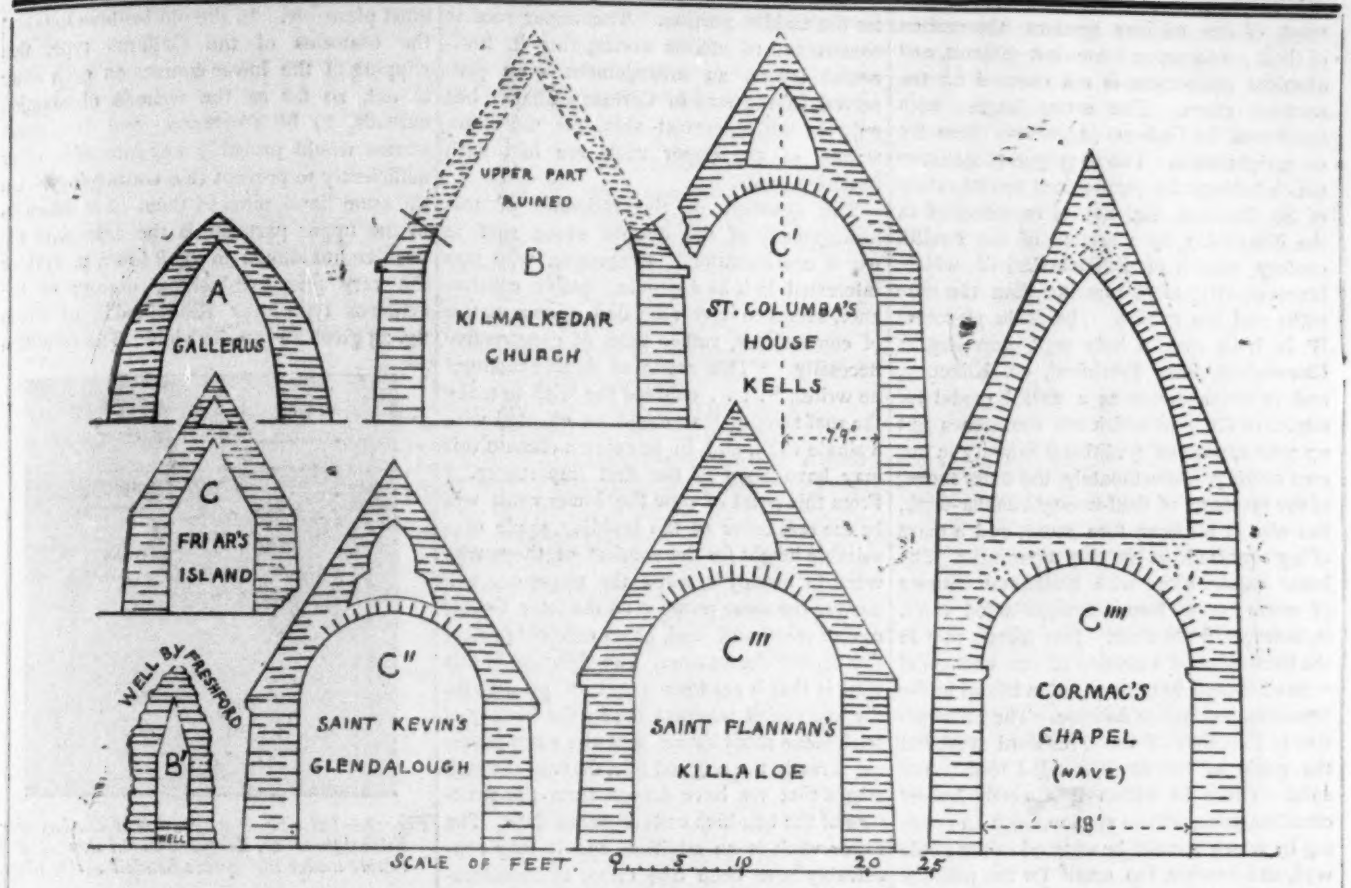


Fig. 22.—Comparative Sections of some Irish stone-roofed buildings.

oratory given in fig. 18. In the St. Macdara oratory, one of the single-celled type, a portion of the stone roof still remains, and the projections just spoken of are the ends of walls and roof regarded as being essentially one, as they are in the earlier buildings of the Gallerus type where no part of the side is vertical. It is evident that the sides were looked upon as quasi-independent, the gable walls serving as centering on which they were constructed, and this independence is emphasised by the projections which find here their explanation. In some specimens of this kind of work the sides and the gables are only very slightly bonded together, or are quite out of bond.

St. Macdara's oratory is unique in the complete preservation of these curious features, but there are other cases in which they begin to ascend the gables and die off after a few feet. In some of these instances it is doubtful whether the church was ever roofed in stone, and even where, as at Kilmalkedar in the twelfth century, the beginnings of a stone roof are actually extant, some have expressed a doubt as to whether it was ever fully carried out. There is a very early-looking, single-celled oratory in the churchyard of Ardmore, near Youghal, where the ground outside has risen almost to the level of the lintel of the square-headed western door (fig. 20). Here there are pilasters at both east and west ends, but they cease a few feet below the top of the side walls, and the masonry above bears every sign of having been altered. No doubt there was a stone roof here originally of the St. Macdara type, but it fell in, or was taken down and replaced by a roof of wood, the pilasters not being continued upwards when the upper part was rebuilt in connexion with the change.

The pilaster projections are often found where there is no indication at all of a stone

Fig. 21.—Pilaster of careful construction, Dulane, co. Meath.

roof, and where, owing to the width of the building, such a covering could hardly have been intended. The "Cathedral" at Glendalough and the principal church on Innis Scattery, which both have pilasters, measure respectively about 30 ft. and 27 ft. 7 in. in internal width. The pilasters may in cases of this kind represent survivals, and have remained in use because they form an appropriate architectural finish to the façade. The construction of them is sometimes very precise, as in the example from Dulane in fig. 21, where the treatment of the masonry reminds us a little of the method of the Anglo-Saxon builders in their long-and-short work, as we find it in carefully-built examples such as Wittering.

We have now to deal with a special class of buildings that present us with examples of stone construction of a very curious and interesting character. These are the oratories or churches with a double stone roof, which form a small but very conspicuous group among Irish mediæval monuments. To this group belongs the finest of all these monuments, Cormac's chapel, upon the Rock of Cashel, a work of the first half of the twelfth century, as well as the still later pointed-arched church of St. Doulagh, near Dublin, so that we can trace the constructive system in question down to a comparatively late period. The system is specially Irish. In Europe generally, mediæval churches have double roofs, but the outer one is a wooden structure, designed to protect the inner (stone) vault from the weather. Only in the south of France do we get outer roofs of stone,* but these serve also as inner roofs, and the covering is really a single one. In the Irish examples there are two distinct roofs, each of stone, with a space, or chamber, between them, sometimes of considerable size; and the question of the reason for this arrangement, and of the true relation between the outer and the inner covering is one of no small interest and difficulty.

The buildings in question, so far as plan is concerned, belong both to the single-celled and the nave-and-chancel type. Those that the writer has visited and that will be noticed here are the following:—(1) The chancel of the small church on Friar's Island in the Shannon, near Killaloe (considered by Brash to have been originally an independent cell); (2) "St. Columba's House," Kells; (3) "St. Kevin's Kitchen," Glendalough; (4) St. Flannan's Oratory, close to the Cathedral, Killaloe; (5) Cormac's Chapel, Cashel; (6) St. Doulagh's, near Dublin. They are enumerated in order of simplicity, though this is not, of course, necessarily the order of date. In fig. 22 are given sections of most of these buildings, with some others useful for comparison. They are drawn to the same scale, and with sufficient accuracy for the purpose in hand, from data derived from published works and from the writer's notes. The perfect condition of

* Professor Baldwin Brown seems to have overlooked for the moment the stone-covered pointed barrel vaults in some late examples of Scottish ecclesiastical architecture. —Ed.

most of the edifices renders observation of their construction somewhat difficult, and absolute correctness is not claimed for the sections given. The series begins with structures like Gallerus (A), where there are no upright walls. The next type (B), that to which belongs the just-noticed small oratory of St. Macdara (fig. 19), is represented in the illustration by a section of the twelfth century church of Kilmalkedar, of which, however, little more remains than the side walls and the gables. The little structure B^1 is built over a holy well, now dry, at Clonetubrid, near Freshford, co. Kilkenny, and is worth notice as a useful model for fabrics of the kind which are sometimes put up over springs of traditional sanctity in our own country. Unfortunately, the outer facing of the masonry, of well-wrought ashlar-work, has almost all been torn away, and a mass of ivy overshadows the tiny monument. The inner construction, with horizontal courses of stone cut to form a straight-sided vault, is, however, quite clear. Just above this in the illustration is a section of the chancel of a small church or oratory on an island in the Shannon, just below Killaloe. The construction is like that of the Freshford well, but the gable of the straight-sided roof is not solid. There is within it a small hollow chamber, triangular in section, with an opening by which it could be entered in the gable wall, and another, too small for the passage of an ordinary body, in the floor of it looking down into the cell. Brash, in his "Ecclesiastical Architecture of Ireland,"* says, "This chamber was evidently for ventilation; it also lightened the dead weight in the apex of roof." Mr. Brash held the opinion, not shared by the present writer, that the structure, now the sanctuary of a small nave-and-chancel church, was originally the cell of the saint whose name it bears, St. Lua, who lived in the sixth century. At that date and with so holy a man surely ventilation was not a matter of much importance; the oratory had, moreover, all along a sizeable round-headed window and a door, while it is so admirably put together that the additional weight of a solid apex would have made no difference. Conceivably, the chamber may have been a place of retirement. A thin saint could have crouched or lain in it, and he would have been better off there than his brother St. Kevin was at Glendalough, in that no intruder, however jimp, could have squeezed in beside him. The real interest of the arrangement is that it seems an embryo form of what appears in the other structures marked C in the illustration as an over-croft of substantial size, which at Cormac's Chapel, and also at the still later St. Doulagh's (not shown in the illustration), is almost as spacious as the main chamber below. This over-croft was in the latter cases, as well as at St. Columba's House, Kells, C^1, certainly used for purposes of dwelling or temporary sojourn, access being gained by a ladder raised to an opening in the lower vault. At St. Kevin's, Glendalough, the floor is not made up flat and there is no sign of human occupation.

In the structures C^1 to C^{III}, the roof is distinctly a double one. The lower is in the form of a barrel vault, semicircular, or, as in C^1, elliptical in section, constructed of rubble-work of small stones bedded in abundant mortar, the stones being apparently laid flat for a third of the height of the vault on each side, but on edge, voussoir fashion, for the middle portion. The upper roof is constructed of stones overlapping in horizontal layers, an arrangement even preserved in the roof of Cormac's Chapel, but only in the outermost skin, for the inner stones of the upper vault are laid with radiating joints.

The question of the rationale of this arrangement of the double stone roof is worth consideration. Fergusson, who was interested in it as a genuine native contrivance, seems to have regarded it as a matter of convenience, rather than of constructive necessity. "This mode of double roofing," he writes, ". . . . enabled the Irish to make the roof steeper than could be effected with a single vault, and in so rainy a climate this may have been of the first importance."* From this point of view the lower vault will be the real cover of the building, made of a suitable height for the comfort of those who were to occupy it, while the upper one will answer the same purpose as the later Gothic roof of wood and lead, as an efficient protection against the weather. The objection to this view is that it assumes a sort of priority for the inner vault, whereas the earlier history of Irish stone roofs shows that the outer covering is really the original one, derived through stages that we have traced from the structure of the bee-hive cells of pagan date. The lower vault is an addition, and it may conceivably have been due either to considerations of construction or to those of utility. A constructive reason is brought forward in the following extract from a paper on Kerry antiquities, contributed to the "Journal" of the Royal Society of Antiquaries of Ireland, fifth series, vol. ii., p. 264. It is there said, in respect of Kilmalkedar Church (C^1 in fig. 22), "In looking at a cross section . . . . the weak point of the construction will be at once apparent. When the side walls were given separate existence independent from the roof, by making them vertical, instead of sloping inwards the whole way from the ground up to the ridge, the span of the roof was thereby increased and the masonry of the side walls was unduly weakened at the point where the side walls end and the roof begins. In consequence of this defect the roofs of all the churches constructed on this principle have fallen in. As soon as the use of the arch became familiar to the Irish builders an obvious remedy suggested itself, namely, to support the roof on a barrel vault, leaving a small chamber between the top of the vault and the underside of the roof."

It is a fact that no single vault on vertical walls of any considerable width has been preserved to us, though some on a small scale are still in existence. It is not easy, however, to be quite sure where and why they failed. Stone roofs constructed with horizontal courses might give way conceivably in one of two ways. The stones might slip outwards on their beds, or they might topple over inward through want of sufficient support from below. The slipping would naturally operate most at the lower part of the slope where the weight that sets the movement going would be greatest. On the other hand, the tendency to fall inwards would be most felt in the upper part where the material hangs over the void far in front of the vertical support of the walls. Now, so far as the evidence of the monuments goes, the latter theory of the failure seems most plausible. In the old beehive huts and the oratories of the Gallerus type, this slipping of the lower courses on each other is not, so far as the writer's observation extends, to be discerned, and the rough stones would probably key into each other sufficiently to prevent this contingency. On the other hand, most of them have fallen in in the upper part, as is the case with the beehive hut shown in fig. 8 (*ante*, p. 233), or the very primitive-looking oratory of the Gallerus type near Kilmalkedar, of which fig. 23 gives an interior view. The condition

Fig. 23.—Interior of very ancient Oratory near Kilmalkedar, co. Kerry. The old stone altar is visible under the square-headed east window.

of Gallerus itself is in this respect significant in that on the south side in the upper part there is a slight but very perceptible depression in the roof, as if to give an indication that it is here that it will ultimately, if left to itself, give way. In the walled buildings, "the point where the side walls end and the roof begins," to quote the foregoing description, does not show signs of yielding. The side walls of Kilmalkedar Church and the first courses of the roofing have not suffered deformation. No more have those at St. Macdara's, see fig. 19.

Furthermore, if the weakness were in this part, the construction of a barrel vault abutting exactly on the same spot would hardly, one would think, have mended matters. Such a vault, even when constructed at the flanks in horizontal courses, must have exercised some thrust on the side walls, and so helped the slipping outwards of the base of the roof. It seems, on the whole, a preferable view of the constructive problems involved to suppose that these vaults, when of too wide a span, fell in in the upper part, but that the undergirding barrel vault, being itself sufficiently supported by the side walls which were strong enough to resist its thrust, narrowed considerably the span of the outer roof, and brought it thereby within the limits of stability. The open space between the two relieved the crown of the barrel vault—at St. Kevin's it is only about a foot in thickness—from all superincumbent weight, and contributed greatly to its security.

The question would still remain whether these constructive considerations actually led to the adoption of the system in question, or whether it was rather the convenience of the second chamber to the building that was the determining motive. The chambers certainly increased in size and habitable character as time went on, and this is a sign that they were found to be of actual use.

However this may be, the constructive interest of the buildings remains. Though

* Dublin, 1875, p. 9.

* "History of Architecture," ii., 232.

they have in most cases been considerably restored in recent times, their vaults seem to have remained firm, and have not been reconstructed, while in no case has any buttressing of the external walls become a necessity. This fact reflects no little credit on the ancient Irish mason, who not only evolved a novel scheme of construction, but carried it out with perfect success into practice. The buildings offer problems of some interest to the student of the statics of building, and in connexion with such problems the writer does not pretend to bring anything forward but suggestions. Any contributions toward their solution which experts in construction may care to entrust to the columns of this journal would probably be welcome to others besides the present writer.

NOTES.

The "Theseion" at Athens.

Dr. Sauer, who won his archæological spurs by his investigations on the pediment marks of the Parthenon, has now turned his attention to the same questions in relation to the so-called "Theseion." And, if we may trust the report of his paper read before the Berlin Archæological Society (Arch. Anzeiger, 1897, p. 84) he has done so with marked success. It is there stated—paradoxical though it may seem—that, spite of the fact that the pediment sculptures have completely perished, we are, owing to the numerous and distinct attachment marks, in a position to be more certain as to the actual composition of both pediments than we can be in the case of the Parthenon. If the subject-matter of these groups can be determined then the ascription of the temple will follow, and on this ascription hang important questions of Athenian topography. As is well known, Dr. Dörpfeld long ago, on grounds partly architectural, partly topographical, ascribed the temple to Hephaistos; and now Dr. Sauer announces his belief that the subjects of the two lost pediments were respectively the birth of Erichthonios (son of Athene and Hephaistos) and the rising of Hephaistos after his fall into the sea. He concludes that the temple was dedicated to Athene Hephaistia and Hephaistos, and is the one described by Pausanias as belonging to Hephaistos. Dr. Sauer has in hand a work on the temple as a whole, and for the publication of this any judgment on his theory must naturally wait.

Surveyorship of St. Paul's.

It had been known for some time, though not officially announced, that Mr. F. C. Penrose intended during this year to resign his appointment as Surveyor to St. Paul's Cathedral, a position which he has held for forty-five years—not "thirty-four," as stated in several of the daily papers. Mr. Penrose's exceptional knowledge of classic architecture rendered him a peculiarly fitting custodian of our greatest classic building, and the fact that he joined to this qualification a high degree of mathematical acquirement seemed to give him an additional fitness for an appointment first held by Wren; in fact we have no doubt that Wren would have regarded Mr. Penrose as an ideal surveyor of St. Paul's Cathedral. From both points of view it must be admitted that the appointment of Mr. Somers Clarke to the office comes rather as a surprise. Mr. Clarke has a high reputation as a church architect, and has produced some very fine modern Gothic churches; but one would naturally have expected that the Surveyorship of St. Paul's would have been bestowed on an architect with a special reputation in classic architecture.

Liskeard Old Tower.

The Chancellor of Truro, in a very reasonable and well-considered judgment, has refused the faculty for destroying the old tower at Liskeard, acting mainly on the advice of Mr. Ponting, who was called in as an independent architectural assessor unconnected with the diocese. Mr. Ponting had examined the foundations, and they were, like many Norman foundations, originally defective, and their construction had been the real cause of the cracks and settlement of the tower; but he states that it can be underpinned and repaired, and he generously offered gratuitous instruction as to the methods to be adopted for making the tower secure. This, however, has not secured him from the wrath of the destructive party among the parishioners, and the *Cornish Times* publishes an irritable article questioning Mr. Ponting's authority and professional position, and complaining that the parish had to pay his fees as assessor for advice given in opposition to their wishes. There is rather an amusing kind of Nemesis in this, certainly, but why did the parochial authorities want to do a foolish thing? As to Mr. Ponting's claims to be heard on such a question, he is much better known in the country than the Liskeard parish seems to be aware, and his opinion will command the general respect of architects. The following extract from the Chancellor's judgment puts the main point as to the old tower very well:—

> "The Court cannot disregard the fact that the builders of the present Perpendicular nave were content (probably from t e value they set upon such ancient work) to leave the Norman tower standing, and is also bound to consider future as well as present parishioners.
>
> It is, moreover, the duty of the Court to discourage, so far as possible, the demolition of all such ancient and interesting ecclesiastical buildings as are within the limits of its jurisdiction; and in a diocese where Norman work is comparatively rare, no effort should be spared to preserve every link that connects the present age with the far distant past."

A Foreign Critic on our Architectural Education.

The *Centralblatt der Bauverwaltung* publishes this month an account and a criticism, very fair and impartial, on architectural education in England. The first place in advanced architectural training is given to the Architectural Association. The writer thinks that technical training is yet in its infancy in this country, and that we are still a long way from obtaining that systematic training which we desire. He warns us, too, that the indiscriminate formation of polytechnics, or technical schools, with architectural classes, will not lead to much until we have made up our minds what ought to be taught, and in whose hands the masterships are to be placed. It is his opinion that we lack good teachers at present throughout the country, and, further, that before we can expect much of architectural education, the elementary education of our private schools, from which the majority of our professional men are recruited, will have to be improved. Yet, for all that, the teaching of architecture in this country, it is said, deserves the attention of the Continental authorities, more especially on account of the spirit (*Geist*) in which the student is instructed with regard to the artistic side of architecture, its draughtsmanship, its designing, and its individuality, as distinct from the essential machine-like, though highly scientific, curriculum so common abroad. Our critic hopes that we shall retain and develop this spirit whilst, at the same time, improving our methods and facilities for architectural education, and that whilst gradually making headway in systematic training, we shall not fall into the errors of those almost automatic architect-factories, the Royal Technical Colleges of Prussia.

The *Locale* of the Paris Salons.

The artistic world of Paris, it appears, is up in arms against the idea of being put off with the Galerie des Machines for the next three years' Salons, and there is even a threatening (we very much regret to hear) of a new schism and a second rival of the Société des Artistes Français being set up, in some other building, and Paris will have three "Salons" instead of one. No decision is likely to be come to till December, and we earnestly hope that no such further subdivision of the artistic camp will take place, as it must have a deteriorating effect on the main exhibition at the old Salon, which will lose its prestige and importance, besides the great evil of leading the rival exhibitions to further lower their standard of work in order to compete in covering their walls. The result of the division into two Salons has already shown that Paris, with all her array of genius and talent, cannot adequately support two annual exhibitions on so large a scale; and an attempt at three will be still worse. As to the Champ de Mars Salon, it is understood that they refuse the hospitality of the Government, and intend to open their exhibition in private quarters selected by themselves; but it is hardly likely they can find such a range of well-lighted galleries as they enjoyed at the Palais des Beaux-Arts.

The Bismarck Monument Competition, Berlin.

We regret to learn from Berlin that there has been another competition scandal, not very unlike the one which created so much ill-feeling in connexion with the Emperor William Monument. A Bismarck "National" Monument is to be placed opposite the Berlin Houses of Parliament, and there was a general competition for the design last year. This has now been followed by a limited competition, for which invitations were issued to a number of architects and sculptors who had been prominently associated with the earlier competition. Professor Begas was also invited, in accordance with the instructions from the Emperor, though he had not participated in the preliminary work. The usual farce was again gone through, and many models and drawings prepared, though some of the better men, like Professors Diez and Ruemann, already anticipated the fiasco and refused to compete. Again the assessors appear to have followed the hints given them by the Emperor, and selected Professor Begas' design for the first premium and the commission. There were to be sixteen assessors, but we understand that several of them, including Professor Wallot and Professor Lenbach, absented themselves when they saw what was required of them. This kind of interference of the German Emperor in artistic competitions is something quite behind the age, and his Majesty will perhaps find out presently

that his faithful subjects will not put up with much more of it.

A German Arts and Crafts Periodical.

The new German monthly periodical, *Decorative Kunst*, seems to promise an awakening among the Germans in regard to quality in decorative design; and from the internal evidence we may have the satisfaction of feeling that recent English work and English taste, as represented among the ablest of our modern school of art workers and designers, has had some influence in bringing about the issue of such a publication as *Decorative Kunst* at Munich. English work receives a great deal of attention, and designs by Mr. H. Wilson, Mr. Rathbone, the late W. Morris, and productions of Messrs. Powell & Sons, the Birmingham School of Art and Handicraft, &c., &c., are among the illustrations. From these and from the illustrations selected from American, French, and German art-workmanship, it is evident that the sympathies of those conducting the magazine are with the most modern feeling in art and craft design, and the "lumpy" kind of quasi-Renaissance ornament which we are accustomed to associate with Germany is hardly represented at all. On the other hand, a good many of the designs illustrated do not escape that tendency to eccentricity and want of firmness of line and intention which is the weak point also in the new school of art-workmanship in England, and which is a failing naturally incident to the determination to be "original." An article on "Der Praktische Zweck" deals with designs for textiles and hangings, which are printed in colour, but as the only colours available seem to be green and yellow, the chromatic effect is not very happy. But the publication in the main is an excellent one, and indicates a new movement in Munich at all events, which will probably have its effect on German decorative art generally.

Wellclose-square, East London.

We hear that the old prison and court-house (on the south side of Wellclose-square, at the corner of Neptune-street) are about to give place to some new business premises. The Court exercised an extended jurisdiction for some three or four centuries past, serving the ancient Liberty of the Tower of London and the precincts thereof, but it seems that all criminal jurisdiction in respect of the Liberty was abolished about thirty-five years ago, though until lately it retained certain powers in the matter of debt-recovery. The Court sate for the last time on June 21, 1894, its province, as set up by a Royal Charter of James I., having been incorporated with that of the Tower division of the county of Middlesex.* Within the square, formerly Marine-square, was built (1696) the Danish Church, at the cost of King Christian V., by Caius Gabriel Cibber; in the vaults were buried Cibber, his wife Jane Colley, and their son. Colley Cibber died in his sleep on December 12, 1757, and *teste* Nicholls in a house adjoining the "Castle," at the northern end of Colebrook-row, Islington. The church, of the interior of which there is a view by Kip, was opened in 1845 as the British and Foreign Sailors' Church; its site is now occupied by the St. Paul's Schools, designed by Messrs. R. G. and S. Greatorex, and opened July 30, 1870; St. Paul's Church for Seamen is in Dock-street. At No. 50 in the square was living in 1839 Edwin J. Quekett, Professor of Botany at the London Hospital. He, with seventeen friends, founded there the Royal Microscopical Society, whereof the then Professor Richard Owen and John Quekett were first president and secretary respectively.

* For the limits, &c., of the Tower Liberties see our "Note" of August 11, 1894.

An Old London Sign.

In a review of Mr. Philip Norman's book upon "London Signs and Inscriptions" the *Academy* says that the sign of the "Porter and Dwarf" (Newgate-street) has disappeared from this neighbourhood. Our contemporary adds:—

> "Mr. Norman thinks it may still be in existence. The suggestion is exciting. A man with time and money to spare might give himself endless fun by undertaking the quest of the porter and dwarf."

Mr. Norman seems to neglect the motto he chose for his book, nor need the search be long or costly. The bas-relief in question has remained for some years past, and yet remains, fixed in the front—between the first and second floor windows—of a modern house, No. 78, Newgate-street, and near its former position at the entrance into Bull Head-court. It represents William Evans, King Charles I.'s giant porter, and the Queen's page, Jeffrey Hudson, who killed Crofts in a duel, 1644. The cut in Pennant's volume shows the now illegible inscription, "M P A the King's Porter and Dwarf."

Italian Paving Tiles.

At Messrs. Cosenza's, 95-97, Wigmore-street, there is an interesting exhibition of paving tiles by an Italian manufacturing company, who propose introducing them into England. The tile is a superior one to look at, and has the advantage of size, being roughly about 12 in. square. It is made of cement, and various coloured designs are sunk into the surface of the tile by hydraulic pressure. The tiles are also exhibited in their natural colour sunk with various simple geometric patterns. These should be very useful for kitchens, lavatories, or stairs. Architects can have their own designs executed in this material, and with some more original designs these tiles should be a success.

Tidal Lock at Wandsworth.

We observe that the agitation for a new lock and weir on the tidal Thames at Wandsworth is again on foot; and it is reported that the Fulham representatives are not content even with a proposed half-tidal lock, but demand a full tidal one. No doubt it would be a vast improvement for Fulham and Putney, giving them a wide full river at all times, instead of mud banks and a shrunken stream at low tide, and it is natural that all the boating interest (a pretty extensive one) should be in favour of the scheme. But the projectors seem quite to overlook, or probably are quite ignorant, as to the probable effect on the lower Thames and the Port of London of thus stopping short the tidal flow. No such scheme would be sanctioned, of course, without the evidence of some eminent river and harbour engineers on the subject; and when that evidence is given we doubt whether anything more will be heard of the scheme.

THE ARCHITECTURAL ASSOCIATION:

THE PRESIDENT'S ADDRESS.

The opening meeting of session 1897-98 of this Association was held on Friday last week in the Meeting-room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, Mr. Hampden W. Pratt, President, occupying the chair.

Annual Report and Balance-sheet.

The minutes of last meeting having been read and confirmed, the annual report and balance-sheet were taken as read. The report will be found on page 151 and subsequent pages of the new "Brown Book," and from it we learn that the fiftieth session showed a marked increase in the number of members. Eighty-seven new members were elected during the session, twelve were re-instated, and the losses by death resignation, and other causes, amounted to twenty, the total membership now being 1,190. The Committee held twenty-two meetings, and they have entered into a lease of the present premises at 56, Great Marlborough-street, terminable at certain short periods. The work of the classes and Studio shows a continued improvement, especially in Division I.

Mr. Beresford Pite, in moving the adoption of the report, said the past session had, in many ways been a very encouraging one. The Association had at the end of the session its largest membership: a net increase of seventy-seven members having taken place, making the total number one thousand one hundred and ninety members. He might add that all the classes and the Studio of the Association during the past session had been in a very healthy condition, though there was not the same progress in all directions. Some of them, for instance, were a little anxious about the Advanced Class of Design, and they hoped that this class, which had invariably been one of the most interesting, might be well supported this year. The question of new premises had, he hoped, now become a little definite. They had had the assistance during the past year, in connexion with their Jubilee commemoration, of several of their past Presidents, and it had been very interesting, as well as a little touching, to see the way in which past Presidents had joined them and attended committee meetings. The question of providing, in commemoration of their Jubilee, proper premises had been referred to this Committee, and judging from the names of the men who formed that Committee, no doubt something practical would soon be done. Financially the Association was in a good condition, and they were carrying on their work without the dread of having a balance on the wrong side. They were still dependent upon their friends for a working fund, as the educational classes were conducted at an unremunerative figure.

Mr. F. G. F. Hooper seconded the motion. The Association was to be congratulated upon its financial position, which had been arrived at, to a large extent, as a consequence of the judgment and tact with which their financial affairs had been conducted by their honorary treasurer, who had served in that capacity for nearly ten years. The Association showed its appreciation of his labours in bestowing upon him the highest honour it was in their power to grant, viz., in placing their honorary treasurer in the position of President. The report could be claimed as a record of success, most classes being well attended; but it must be a matter of regret to every one who took an interest in the work of the Association that it should be recorded that eight students only joined the Advanced Class of Design, the average attendance being four, a result representing an attendance of 3 per 1,000 of the members of the Association. When they remember the names of those responsible for the work of this class, who give their services gratuitously, the result seemed most unsatisfactory. The gentlemen who acted as Visitors to the class were some of the most accomplished architects in the country, and the privilege that students had of obtaining advice from such men had never before been offered, making those who had passed through the earliest stages of their career envy the students who had such opportunities.

The motion having been put and agreed to,

Mr. Banister F. Fletcher proposed a vote of thanks to the honorary auditors, Messrs. H. P. G. Maule and Mr. M. Garbutt.

Mr. E. Howley Sim, Senior Hon. Secretary, seconded the motion, which was adopted.

On the motion of Mr. Sim, the following

votes of thanks were agreed to: to Mr. H. T. Hare, for permitting members to visit recently the Oxford Municipal Buildings, and to Mr. W. Harrison, who met the party on the occasion and gave them much interesting information; to Mr. G. H. Fellowes Prynne for allowing the members to visit the new church at Roehampton; and to Mr. A. Hessell Tiltman for permitting the visit to the Grove Hospital, Tooting.

The Chairman remarked that the visit to Grove Hospital had unfortunately taken place a little too early, for the building was not far enough advanced to be seen to advantage; but Mr. Tiltman had kindly promised that another opportunity for inspection should be afforded in the Spring.

A long list of nominations for membership having been read, the Chairman announced the following reinstatements:—Messrs. G. H. Smith, F. A. Lamb, A. W. Pocock, jun., A. Lovejoy, G. E. Withers, A. G. Turner, and G. Bailey.

The Chairman also announced that on the 20th instant the Discussion Section would commence its proceedings for the new session. He also stated that photographs of the recent excursion into Lancashire and neighbourhood could be purchased on application to Mr. F. J. Osborne Smith.

Presentation of Prizes, &c.

Donations to the library having been announced, the Chairman presented the prizes, medals, and certificates gained during the past session. The following is the full prize list:—

A. A. Travelling Studentship, value 25l. and Bronze Medal: E. H. Evans.

Second Prize: Not awarded.

Architectural Association Silver Medal and 10l. 10s.: H. Inigo Triggs.

Hon. Mention: F. D. Clapham.

Essay Prize, value 10l. 10s., and Silver Medal: Alexander Wood.

The Andrew Oliver Prize, 1st Prize, value 3l. 3s.: Not awarded.

The Andrew Oliver Prize, 2nd Prize, value 2l. 2s.: Not awarded.

The Arthur Cates' Scholarship, value 10l. 10s.: H. T. Bromley.

Measured Drawings Prize, value 5l. 5s: C. H. F. Comyn.

Hon. Mention: H. Farquharson.

Discussion Section Prize: Not awarded. No competitors.

Architectural Union Company's Prize: Not awarded. No competitors.

School of Handicraft (Masonry) Bronze Medal: H. C. Lander.

Lecture Side.—*Division I.:* R. H. Spalding, silver medal and certificate; A. Wood, bronze medal; H. White, hon. mention.

Division II.: G. S. Nicol, silver medal and certificate; H. C. Trimnell, bronze medal; E. Hale, hon. mention.

Studio Side.—*Division I.:* V. Wilkins, silver medal and certificate; T. Bee, bronze medal; R. H. Spalding, hon. mention.

Division II.: W. H. Ward, silver medal and certificate.

Order of Merit.—*Division 1.—Greek and Roman Orders.*—C. Brée, certificate; H. White, J. E. Franck. *Elementary Construction and Materials.*—C. Brée, certificate and book; W. C. Butterworth, W. J. Davies. *English Architecture.*—Alexander Wood, certificate; J. E. Franck, R. H. Spalding. *Elementary Physics, Formulæ, and Calculations.*—J. E. Franck, certificate and book; R. H. Spalding, H. White. *Plane and Solid Geometry.*—R. H. Spalding, certificate and book; R. C. Hall, J. E. Franck. *Mensuration, Land Surveying, and Levelling.*—J. D. Hunter, certificate; L. G. Detmar, R. H. Spalding.

Division II.—*History of Architecture.*—G. S. Nicol, certificate and book; H. Badcock, S. E. Barrow. *Materials, their Nature and Application.*—H. C. Trimnell, certificate and book; H. Badcock, G. S. Nicol. *Stresses and Strains.*—G. S. Nicol, certificate; F. J. O. Smith, T. W. Aldwinckle, jun. *Construction.*—P. Morris, certificate and book; H. C. Trimnell, G. S. Nicol. *Hygiene (Drainage and Water Supply).*—F. J. O. Smith, certificate and book; T. W. Aldwinckle, jun., H. C. Trimnell. *Hygiene (Materials and Construction, Ventilation, Lighting and Heating).*—F. J. O. Smith, certificate; G. S. Nicol, T. W. Aldwinckle, jun. *Specifications and Estimates.*—S. E. Barrow, certificate; H. C. Trimnell, T. W. Aldwinckle, jun. *Professional Practice.*—T. W. Aldwinckle, jun., G. S. Nicol, S. E. Barrow.

Elementary Class of Design.—F. N. Reckitt, silver medal with scholarship value 5l. 5s. and certificate; C. L. Brierley, bronze medal and certificate; T. F. Green, hon. mention and certificate; J. S. Lee, hon. mention.

A Presentation.

The Chairman said there was one other pleasant duty he had to perform, for a few friends—members of the present and past Committee and the instructors—had united together and subscribed and purchased a silver tea and coffee service in order to present it to their friend Mr. D. G. Driver, Assistant Secretary and Registrar. The immediate occasion for the presentation was Mr. Driver's marriage, and the subscribers thought that a fitting opportunity had occurred for showing their regard for Mr. Driver, and their appreciation of his faithful services to the Association. Mr. Driver had been with them for six years, and during that time he had done a large amount of work for the Association.

The Chairman then presented the testimonial to Mr. Driver, who suitably replied.

President's Address.

The President then delivered the following address:—

Gentlemen,—There are certain periods in the history of an institution when it is convenient and customary, not to say interesting and instructive, to look back and trace the course of events, in other words, to review the past, also to consider the present, and look forward to the future. For fifty years the Architectural Association has striven to supply the needs and promote the welfare of the architectural student, and it must be very gratifying to the founders of the Society, a few of whom happily survive, to look upon the flourishing body that still bears the name of the Architectural Association.

The object of establishing the Association was "to enable young men who are studying architecture to meet for general improvement in the various branches of their art." In a circular issued at the origination of the Society it was pointed out that "the great advantages a scheme like this, if carried out, would offer to the architectural student must be obvious at a glance. By this institution all the future members of the profession, their objects, their labours, their studies, would become known to each other. The incalculable advantages this knowledge and acquaintance would afford to those engaged in the same study, the mutual instruction and valuable assistance each could afford, the honourable spirit of emulation that would be engendered, the furtherance of their art in general, and the happy effect that must be produced by all the future architects becoming a band of friends, intimately associated with each other in their plans and projects, *must* and *will* prove of the greatest advantage to all those connected with the scheme." This forecast has been fulfilled to the letter, and we may truly say that the bonds which unite us to-day are as strong and as powerful as ever they were, and no one but a Hercules could sever or destroy them.

There is scarcely anything recorded of the early years of the Association; its proceedings were not reported as they now are, and it is mainly through the unpublished minutes of its meetings that we are able to glean something of its history. As we turn over the pages of its log-book, we may note the chief incidents of the voyage, and trace its progress from year to year. The question of public competitions seems to have been early considered, for in 1850 a code of regulations was drawn up and issued; this interesting document was published in the Jubilee number of *Architectural Association Notes*, and contained some excellent suggestions which the agitation of many years has not succeeded in satisfactorily settling. As evidence of a desire to enlarge its scope, we find that Mr. R. Kerr, in 1852, laid before the Committee a scheme for the formation of an architectural academy, comprising courses of study, professorships, lectures, graduation, &c., and a resolution was passed to the effect that "the proposition is well worthy the consideration of the profession generally, and that any assistance toward the furtherance of this object that can be rendered by the Association shall be liberally given."

Unfortunately, financial troubles proved a stumbling-block to the smooth working of the Society, chiefly owing to the members getting into arrear with their subscriptions—an experience not confined, by the way, to the infancy and youth of the Association, as subsequent treasurers can testify; but at the outset it was a serious matter, and led to the appointment of a Committee of Investigation in 1855. This Committee reported that they "found the Association in a state of apathy, torpor, and depression unparalleled in former sessions," the financial statements had been misleading owing to the concealment of heavy liabilities, and the management of the Society called for improvement. It was further suggested that a lending library should be formed, and an "Architectural Association Magazine" might, if published, be expected to pay its own expenses. The report concluded with an earnest appeal for a renewal of the enthusiasm which characterised the members at the formation of the Society. Following closely upon the reception of this report came a proposal to memorialise the Institute "for the establishment of an examination which should eventually serve as the basis for the issue of such a diploma as shall certify that the holder thereof is fully qualified to practise as an architect." A reply was received from the Institute in 1856 to the effect that the Council felt it was premature to pronounce an opinion upon so important a subject, and that before they could recommend the Institute to undertake such a charge it would be necessary to ascertain the opinion of the profession generally, at the same time they would be able to come to a sounder judgment after some experience of the district surveyors' examination recently instituted. Disappointment followed this decision, interest in the Society continued to flag, and in May, 1856, a special meeting was held at which a resolution was brought forward to terminate the existence of the Association; this, however, was defeated by a large majority, thus indicating that there was at any rate some vitality amongst the members. In the following month an important letter was received from the Institute suggesting an amalgamation of the Association with that body. This communication was duly considered, and a resolution passed to the effect that it is not expedient for the Association to join the Institute on the terms suggested. The crisis through which the Association passed in 1856 was followed by an awakening interest in its welfare, and a committee was appointed to take into consideration the defective means of architectural education, and the desirability of forming classes for the special study of subjects immediately connected with professional practice.

In January, 1857, a conversazione was held, at which Mr. Ruskin was present and read a paper on "The Use of Imagination in Modern Architectural Design," and though forty years have passed since then it is interesting to recall and record some of the words of a master in art who in times past has kindled so much enthusiasm in the architectural breast. Mr. Ruskin said: "If they were asked abruptly, and required to answer shortly, what were the qualities which distinguished great artists from mean artists, he believed they might reply—first, their imagination; second, their industry. Some of them might doubt the justice or the necessity of attaching so much importance to this latter quality, because there might be dull men who were industrious, and clever men who were indolent; but though the industrious man might be dull, and the indolent man might be clever, he had never known a great man who was not industrious. But though this quality of industry was essential to an artist, it did not make an artist; for many people were always busy whose doings are of little worth. Neither did feeling make the artist; but the gift which distinctively made the artist—without which he would be feeble in life and forgotten in death—was that of imagination. Imagination was not manipulation, or calculation, or attention; it was something more, something higher than all or any of these. If an architect lays his bricks and stones well, we praise him for his manipulation; if he keeps well within his contract, we praise him for his calculation; and if he arranges his beams so that nobody drops through his floors, we praise him for his caution. But, if he is to be a great architect, he must do something more than possess and exercise these qualities." After referring with regret to the separation between sculpture and architecture in modern times, and to the field opened to the fancy by the junction of sculpture with architecture, he remarked that "nearly every other art was limited in its space; but was there anything within the range of sight, or thought, or conception

which might not be of use to the architect, or in which an interest might not be awakened to the advantage of his art?" Concluding an eloquent address, Mr. Ruskin said, "So soon as they desired to build largely, they would find that their work must be associative; one could not carve a whole cathedral himself; either their own work must be disgraced, or they must raise their fellow-designers to some correspondence of power. They would take the lead in disposing of their building, but they must trust to the genius and invention of others in the disposal of its detail; and in doing this, too, they must rejoice in the very powers that may promise to rival them. If they endeavoured to depress or disguise the talents of their subordinates they were lost to their art, for it was their own prosperity they were seeking, and their own skill that they were striving to perpetuate. He placed no Utopian standard before them; he had said that they must surrender their own pre-eminence to their love of building, and whomsoever they found better able to do what would adorn it than they were, that person they were to give place to, and rejoice at seeing their edifice growing more beautiful under his chisel, and next rejoicing that they had done kindly. The man who sees capacity in another, and does not acknowledge it, or assist in bringing it forth, is not the refuser of a kindness, but the committer of an injury. They had the sweet consciousness that as their art embraced a wider field than all others, so it was more profound and holy than all others. The artist, when his pupil is perfect, must see him leave his room that he may pursue his destiny—perhaps as an opponent in toil: but architects alone were called by kindness to fraternity of toil. Those massive piles which rise above the domestic roofs of our ancient cities have a meaning more profound and true than is commonly attached to them. Men say they are good for worship—but so is every mountain, glen, and rough sea shore; they have the indisputable and distinguished glory that their mighty walls were raised by men who have given aid to each other in their weakness, and the strength of their structure has its foundations on manly friendship, which conduces to awaken the sweeter cadences and symmetry of the human soul."

What effect Mr. Ruskin's eloquent address had on the members is not recorded, but it is pleasing to find that the Committee were able at the commencement of the next session to congratulate the members on the general improvement which had taken place in the prospects and financial position of the Association, which was at length freed from its embarrassments, a fund having been raised for the purpose. A movement was on foot at this period to provide a home for architectural bodies in London; the Architectural Union Company had been formed and was erecting a building in Conduit-street, and after prolonged negotiations the Association arranged terms and removed from Lyon's Inn Hall, holding its first meeting at 9, Conduit-street, on April 1, 1859. In that year, for the first time, a Prize was awarded in the Class of Design, and a Prize Essay instituted, the subject being "Street Architecture and its Proper Treatment." The acquisition of new premises might have been expected to mark a renewal of vigour in the work of the Association, but strange to say only twelve months had elapsed when a resolution was passed regretting the want of support afforded by the members, and asking the Committtee to consider and report whether there was any course short of closing its operations. The Committee recommended that all office bearers, with the exception of three, should for the next session be members who had never held office before; accordingly, some new blood was introduced into the direction of affairs.

A circular having been issued by the Royal Institute of British Architects, inviting suggestions on the establishment of a voluntary examination, the Association held two meetings at the close of 1869, and, after fully discussing the matter, passed two resolutions: 1. "That in the opinion of the Architectural Association a strictly voluntary examination should be instituted with a view of guiding the student in architecture to such a course of study as would enable him to arrive at competence in his profession." 2. "That in the event of a professional examination being insisted upon, it should be limited to those subjects which bear directly upon the practice of the profession, and this Association is apprehensive that any examination upon the principles of taste might lead to results unfavourable to the progress of Art."

In 1860, Botany and Modelling Classes were formed, the latter proving very successful. In 1862, the Library, which had been in course of formation for some time, was at length opened. In the same year, Saturday afternoon visits were organised, the first being to Westminster Abbey, a prize being given for the best account of the visit. At the conversazione in October, 1862, a musical programme was introduced for the first time, the services of the artistes being gratuitous. In 1863, the Voluntary Examination Class was established for the study of practical subjects with special reference to the examination then instituted, the Association having pledged itself to use all its influence to induce the members to qualify themselves for it. In the following year, a class for the study of Figure Drawing was formed, under the direction of Mr. E. J. Poynter, F.C.L., and was so attractive that fifty members joined it. A Water Colour Class was subsequently started. In 1867 the Architectural Association "Sketch Book" was commenced, the parts being issued monthly at a subscription of one guinea per annum, as now, and an excellent publication it has always been. At this time the Class of Construction was formed, to carry on the work formerly undertaken by the Voluntary Examination Class; and a year later the Elementary Class of Design was started. The Association had now settled down to steady work, for in Session 1868-69 a number of sub-committees were appointed and a balance-sheet published for the first time, showing an income of about 240*l.* and a substantial sum in hand; it became necessary also to compile a catalogue of the library, and this was issued in 1869.

We next come to an important report drawn up in 1869 by a Joint Committee of the Institute, the Academy, the Architectural Museum, the Association, and the Architectural Exhibition, on the question of establishing a "School of Art accessorial to Architecture." This Committee carefully investigated the scheme of the voluntary examination, and arrived at the conclusion that its failure was due to: 1. The absence of a formal certificate of having passed the examination. 2. The want of such a stimulus or pressure as would make the passing of the examination professionally necessary. 3. Inefficient preliminary education. 4. Want of system in architectural education. They accordingly recommended: 1. That a text-book or pamphlet should be prepared containing a complete curriculum of study for the architectural student. 2. That a certificate be granted to all who pass the voluntary examination. 3. That at some future period the membership of the Institute be made dependent on the passing of the voluntary examination in the class of proficiency. 4. That a preliminary examination be held in elementary subjects open to all students who have been at least one year in an architect's office. 5. That the Institute should assist the Association to carry out the proposed drawing school. 6. That a committee be appointed to compile the text-book referred to. As a result of the fifth recommendation architectural art classes were established at the Architectural Museum under the management of a committee composed of representatives of the Institute, the Museum, and the Association. These classes were commenced in 1870, and comprised Figure Drawing and Architectural Ornament, the latter being conducted by well-known architects as visitors. For two years the Association contributed 25*l.* annually towards the expenses of these classes, which, however, soon languished.

The first annual excursion took place in 1870, when Lincoln and district were visited, the party being conducted by the late Mr. Edmund Sharpe; and it may be remarked here that every year since then some fresh district has been visited. During the next ten years (1870-80) no important change or event took place; the membership grew from 500 to 800, two new classes were formed, viz., for the study of Colour Decoration and Architectural Science, the latter being subsequently called the Advanced Class of Construction; some courses of lectures were also delivered; special arrangements were introduced for the benefit of country members in connexion with the classes and library, and the Birmingham Architectural Association was admitted as a Provincial Branch. The Institute opened its library to members of the Association under twenty-three years of age. New and amplified rules were adopted in 1877, and four years later the entrance-fee was raised to one guinea. Additional rooms were taken at Conduit-street in 1879; the Architectural Association medal was founded in that year and the Architectural Association Travelling Studentship two years after, when a sum of nearly 700*l.* was subscribed by past and present members to provide the necessary funds.

In 1881-82 the Committee thought it desirable to vary somewhat the arrangements of the classes, with a view to making them specially useful to members preparing for the new obligatory Examination of the Institute, which commenced in 1882. Courses of lectures on the History of Architecture and on Construction were given and a new class started for the study of Planning and Specification Writing.

In 1884 a Special Education Committee was appointed to inquire thoroughly into the general organisation of the Association, with a view to further systematise its working and extend its usefulness, and a scheme was adopted, in 1885, for amending and consolidating the work. The main feature consisted in forming two defined divisions of study, called the Elementary and the Advanced, the former comprising Elementary Classes of Design and Construction, preceded by lectures on History and Construction, and the latter consisting of Classes of Design, Colour Decoration, Advanced Construction, Quantities, and Surveying, but no lectures. The work was conducted by visitors, who were formed into a Committee of Advice. An attempt was made at this time to increase the subscription of members to one guinea, with the object of affording increased educational advantages, but the proposal was defeated by a small majority. In 1885 the Saturday Vacation Visits were first organised, and in the ensuing session many improvements were effected in the library, viz., a new system of registration, the addition of a reading room, and the opening of the library twice a week instead of once. In 1886-87, a practical class of Masonry was carried on as an experiment at the City and Guilds Institution, and a series of lectures started on Graphic Statics. A noteworthy step was the issue in April, 1887, of the first number of Architectural Association "Notes" at a small subscription, the desirability of providing a means of intercommunication amongst the members being at length realised, though it was not until four years later, when it was issued free to all members, that its purpose was more completely fulfilled.

The gradual increase in the number of members and the large attendance at the ordinary meetings forced the Committee to consider the necessity of providing better accommodation, and by the kindness of the Institute we were permitted to hold our meetings in their room during Session 1887-88, a privilege which has been courteously extended to us ever since. About this time rules were passed to facilitate a scheme of affiliation, with the desire of creating a bond of union between the Association and Provincial Societies; the Birmingham and Glasgow Associations joined us, but the arrangement did not long exist. An Elementary Class of Ornament and Colour Decoration now appeared and was well taken up, and two years later the Sketching and Measuring Class was formed for the purpose of visiting buildings in the neighbourhood of London during the summer. At the same time an Architectural Association Cycling Club was organised with the object of making runs to places of architectural interest, but this club soon disappeared, and notwithstanding the growing popularity of cycling no attempt has been made to restart the club. Another club was founded in 1888, viz., the Lyric Club, one of the objects being to promote friendly intercourse among the members; and those who appreciate the social advantages of music, dancing, and smoking are still provided for at this club. Reference may be made here to the Camera Club, though founded at a later date (1893). Apparently, this club is not so prosperous as it was at first, and a hope may be expressed here that some effort will be made to revive its usefulness.

We have now arrived at the last great movement in the Association. In 1889 a Special Committee on Education was appointed, and after exhaustive inquiries its recommendations were approved by the general body in May, 1890. Following this, a special committee was appointed to consider the revision of the rules, a new constitution and by-laws being adopted by the general body in the following January. These included the raising of the entrance fee

to two guineas, and the subscription to one guinea, to all members elected after 1890; and also provided for the appointment of paid officials. A Re-organisation Committee was next appointed to prepare the new Education scheme, and resulted in the new curriculum. In order to establish the new scheme, and provide for the extra cost and risk incidental thereto, as well as the outlay involved in obtaining suitable premises, an appeal was issued and generously responded to by members of the profession. The scheme provided for a complete course of study extending over four years, that being considered as the least time that should be given to the study of the subjects. It was laid down that the aim of the courses was to help members to fit themselves for their work as architects by providing the means by which they may supplement the training acquired in offices; the principal object not being to prepare candidates for the examinations, although the courses were chiefly based upon the programme of the examinations.

Premises having been secured in Great Marlborough-street, and adapted to meet our requirements, the new scheme was launched in 1891-92. From the outset the first and second years' courses were well supported, the third being thinly attended, and the fourth not fully started. In 1892-93 Divisions I. and II. continued to be well supported, and Divisions III. and IV. showed improvement. In 1893-94 there was a poor attendance in Divisions III. and IV., indicating the necessity of rearranging these divisions. In 1894-95 the complete course was arranged in three divisions, but the attendance in Division III. was again disappointing, and a special committee was appointed to inquire into the working of the classes. As an outcome of this inquiry the Institute agreed to alter the dates of the examinations so as to avoid interference with the working of the classes. In 1895-96 the curriculum was arranged in two divisions, the complete course extending over four years, and a School of Design started, being attended with considerable success. Last Session the work of the Classes and Studio showed a continued improvement, especially in Division I. The School of Design and Handicraft was most successful and encouraging; forty students joined the Elementary Class, and the whole Session was devoted to one subject, which produced good results. Eight students joined the Advanced Class, the syllabus of which was amended as it was found desirable to have more than one subject. The Technical Education Board arranged special handicraft classes for the School, and these were appreciated by the Students. The Discussion Section affords opportunities for the study and discussion of those subjects and difficulties which occur in actual practice; this is a most valuable part of our work, and it is gratifying to note its continued success.

A record of the Association transactions would not be complete without a reference to the special meeting held in December, 1893, when the question of the admission of ladies into membership of the Association provoked a lively discussion, and the proposal was defeated by a large majority. Since then no one has come forward to advocate the cause of the ladies, but we have, on several occasions, been reminded of the existence of such a class of students on the boards of the A.A. soirée stage.

We have now traced in outline the work and progress of the Association during the fifty years of its existence. There are, of course, many incidents and details that would have been interesting to enlarge upon, but on an occasion like this it would be impossible to do so. There are, too, many names that might have been mentioned as identified with the course of events, but it would be undesirable to single out a few where so many have borne an active part. The history of the Association is marked throughout its career by a fixed determination on the part of its members to maintain its independence, to uphold its traditions, to overcome all difficulties, to grapple with changing circumstances, to keep abreast of the times, to seek the counsel of its best friends, to encourage and help the young student, to provide the best training and education at its command, to keep in touch with those who have passed through the student stage, to keep alive the memories and maintain the friendship of those who have retired from active service, and above all to advance the noble art of Architecture. May the same devotion and self-sacrifice, the same enthusiasm and loyalty, characterise the men who are entering our ranks to-day, so that the Association may accomplish in the future greater things than in the past, and Heaven smile upon the works of their hands.

We have been looking into the past and rejoicing in our year of Jubilee at all that has been accomplished; let us turn for a moment to the present. We have entered upon a new session with the largest roll of members ever recorded, viz., 1,150. It may be interesting to note that of this number eleven have been members for forty years and upwards, sixty for thirty years and upwards, 110 for twenty-five years and upwards, 180 for twenty years and upwards, 302 for fifteen years and upwards, and 552 for ten years and upwards. Seven hundred and forty-eight of our present number joined before the subscription was raised in 1891, so that 402 have come in and remained since then. Various conclusions can, of course, be drawn from these or any other figures, but this at least may be said, that the Association has succeeded in retaining many of its best and most valued friends, who are ever ready to testify to the great advantages they have derived from its membership. On the other hand there is a solid army of young men, many as yet untried, who are destined to take up the reins of government before long, and who have opportunities which, if wisely used, may be productive of lasting good to their own and future generations in raising the status of the profession and in the advancement of Architecture as a living Art.

There is one point in our comprehensive scheme of education which demands attention, and continues to disappoint us. While the students in Division I. attend in very satisfactory numbers on the whole (and in fact the present accommodation is somewhat strained to properly provide for them), those in Division II. are comparatively few. What becomes of those who have passed through the first stage? It is very evident that a large proportion of them do not continue their studies and complete the course we wish them to follow. This is a problem that we have not succeeded in solving yet, and it suggests the advisability of making individual inquiries of those who have passed through Division I., to ascertain the causes which apparently lead them to abandon the higher and more advanced studies provided for them.

The combination of practical with theoretical instruction is also a subject which is exercising the minds of many. At present, the facilities we offer our students in this direction are very limited. In the handicraft classes last session the students were enabled to attend a course of manual training in masonry and leadwork, thanks to arrangements made by the Technical Education Board; and this session the board has kindly arranged for a series of workshop demonstrations in stone working, to be given at the Regent-street Polytechnic.

There appears to be a difference of opinion as to how far it is necessary or desirable that an architect should be able to put his own hand to the work of any trade. If it is an advantage that an architect should have actual manual experience, would it not be better that a student should be taught or apprenticed to one trade—say mason or carpenter—before he serves his articles? Such a course would seem to be the most convenient as well as the most practicable; later on he might with advantage gain considerable knowledge in other crafts, not necessarily by handling the materials and tools, but by observation either on works, in shops, or in craft classes; while later still the superintendence of works, either as clerk of works or otherwise, would be an experience of great practical value. After all, the years of a student are limited, and even if he should make the very best use of his opportunities, he cannot expect to accomplish very much in this department of his education. By far the most useful and appropriate thing for an architectural student is modelling, and it is a question whether this is not worth all the other crafts put together. The tendency of the times is, perhaps, to make too much of the manual work undertaken at the Technical Institutes. It is valuable as far as it goes, especially in the more scientific subjecls, but it is a fallacy to suppose that it can in any degree supersede the training which an apprentice to his trade must and should acquire in the workshop, where the every day practical problems have to be dealt with.

You will have gathered from the report of the committee of last session that it has been resolved to commemorate the Jubilee of the Association by establishing a fund for acquiring new premises, suitable and adequate for the work carried on. It would be quite contrary to the wishes and feelings of all who have the interest of the Association at heart, to let so important an occasion pass, without making some special effort to permanently benefit a Society that has done so much to further the cause of architectural education, and in whose welfare the whole profession is concerned. Various suggestions have been made and discussed, but there seemed to be one predominant object which overshadowed all others. For the last few years the cry has gone forth for increased and better accommodation; numerous efforts have been made to obtain premises, but hitherto without success; and, seeing that our need is as great as ever, it has been determined to commemorate the Jubilee in the way mentioned. We have sought the advice and help of friends who have aided the Association generously in the past, and they have intimated their readiness to support us again, provided we are prepared with some definite scheme. This is a most reasonable attitude, hence we are now going forward in the matter with renewed energy and determination, and are hopeful that the way is opening up for obtaining a site on which premises could be erected to provide studios and class-rooms, library, reading-room and offices, a common-room, and last, but not least, a meeting-room, so that under one roof we may combine all the essential accommodation for educational and social purposes. The provisions of workshops might, with advantage, be arranged in a separate building more suitable for the purpose, if satisfactory arrangements could not be made with any of the public Craft Schools. This outline of a scheme may seem to indicate a large undertaking, but if carried out on the lines we have in view, and which it would be premature to discuss, there is little doubt but that it could be satisfactorily accomplished. Our desire is to formulate a definite scheme that is practicable and attainable within reasonable limits and a reasonable period, not forgetting, at the same time, that it should worthily commemorate our Jubilee.

The question of establishing a municipal school of architecture has been talked of and may yet come; but such an institution could never do the work that the Association undertakes, neither could the Association open its doors to outsiders and accept grants or subsidies from County Councils or other public bodies without sacrificing its freedom and ceasing to fulfil the objects for which it exists. It is an advantage that cannot be too strongly urged, that the architectural student should be trained in an architectural atmosphere, that he should have every opportunity of associating with kindred spirits and forming lasting friendships with them. The true spirit of comradeship will be best promoted by such intercourse, and the higher claims of Art will be more easily attained. If we would seek to stimulate the enthusiasm and fire the imagination of our fellow students, we must cultivate the love of the beautiful; we must continually strive for the advancement of our Art, our sympathies and powers must be directed to raising the standard of our attainments and keeping a high ideal ever before us. Let us go forward, therefore, with renewed energy to the duties and studies of another year, remembering that the opportunities, the advantages, and the privileges, which are now the inheritance of our students, have been obtained by the cordial co-operation, the self-sacrifice, the patient toil, and the brotherly love of men who, for fifty years, have joined hands in promoting the advancement of Architectural Education and upholding the first principles and honoured traditions of the Architectural Association.

In the discussion which followed, Mr. Cole A. Adams proposed a vote of thanks to the President, whose interesting address, he said, on the fifty years' work of the Association was most comprehensive. Mr. Pratt was one of their oldest members, and when he (Mr. Adams) first joined the Association, Mr. Pratt held office, and since then he had done many years' good work as their librarian and treasurer. The President had referred to the work in Division I. as being satisfactory, but he had mentioned the falling off in Division II. He (the speaker) endorsed the President's view as to the importance of learning the secret of the non-success of Division II. from those who had

passed through Division I. Upon the question of technical education, and its importance to the members, he shared a great many of the views of the President. He was not sure that it was good for the student to devote a great deal of time to technical education; in fact, when they realised the enormous amount of work that a student had to do, and the comparatively short time in which to do it, they would see the unwisdom of devoting so much attention to the manual crafts. Let them think of the great architects of the past! How many of them had taken up craft pursuits in detail? It was almost impossible! Life was too short! The President had quoted the words of Ruskin where he said that one of the great qualities—in fact the greatest quality that made a great architect—was imagination. Surely that had to be cultivated! And if too much time were devoted to other subjects it would not be possible to undertake all the work that would be involved. They all felt the necessity for the acquisition of new premises, but it would require a great effort, which, he felt sure, would be forthcoming, to accomplish that object, which had always been held up to the Association as a very desirable one. In conclusion the speaker expressed the hope that the President's year might be a prosperous one.

Mr. Beresford Pite, in seconding the vote of thanks, said they all desired to thank the President for what had been an exceedingly valuable and important address. They had listened to many previous Presidential addresses in that room, but he ventured to think that none had been so interesting to the audience as this very accurate and scientific address, in which the President had dealt with the past history of the Association. In listening to the President's summary they all must have felt what a great debt architecture in this land owes to their humble little body. Without the Architectural Association, it was not asserting too much to say that there would have been no architectural education. As the President had described the origin of the demand for an examination, so he had described the origin of the demand for education. Systems of various kinds for self-improvement had grown up, and they were conscious that in London, if not in the provinces, these systems had originated in the example and progress of their work. They might take a good deal of credit to themselves for this. Their constitution was a very healthy and vigorous one; they had not been hampered by Royal Charters, nor by gold chains round their neck, for they had periodically revised their rules and methods. There was a true liberality in the conservatism of the Association, and there had always been a strong tincture of the practical with their theories. The Association had invariably had a high aim. At no period of its history had it lost sight of its prime object—the object of promoting the production of fine architecture. He ventured to thank the President personally for the long extract he had given from Ruskin's remarkable address; he hoped that it would produce some effect upon the generation at present working in the classes. The question of imagination was really the question of questions for the architect. The cultivation of the imagination was not altogether a simple matter. Classes of design were but means; they really wanted classes of observation, classes of collection, classes that should excite conception in the mind. He could look back upon the many exhibitions of sketches, by such men as Mr. Brewer, and like that which they saw that evening, which had produced in the mind a rich harvest. Unless the architect saw, he could not imagine; then only by putting together the letters, syllables, and phrases of accomplished design, in his mind, was he able to weave a phrase or poem in the work he had in hand. He ventured to urge upon students the vast importance of properly using their eyes. In the early days of his articles he and his fellow students used to spend hours in looking at the illustrations in the building papers, half consciously chiding themselves for wasted time; but no time was better spent. The mind could accustom itself to seeing a large amount of architectural form, and unless the mind was so stored, poverty of design followed. Want of imagination produced a great distaste for the hard work of design, that is, for the proper use of india-rubber; Students could not be got to understand that the art of design was not the art of rapidly sketching anything. He ventured to suggest that the falling off of reading and lecture sitting that ensued after the student had been a year or two at his studies was, perhaps, a healthy sign. If students continued to give for three or four years the best part of their time to hearing and cramming the pemmican of architectural education, imagination would not and could not grow. There was food for fools and food for gods, and there was food for the imagination; and he cherished the idea that the student who had had a course of reading and classes and lecturing, appreciated the delightful freedom of reading for himself—enjoying the pictures in Fergusson much more than hearing the lecturer describe Fergusson in unpleasantly short phrases. Such a student gained an experience and a facility in design which did not necessarily come to a first or second year student, though it assuredly came to the industrious student, who in his freedom began by designing a sideboard, perhaps, or a cupboard, or something of that kind. He hoped that that was an accurate explanation of the shorter attendances in the higher divisions.

Mr. Owen Fleming, in supporting the vote of thanks, said that he thought the very able and careful examination into the history of the Association would enable them to look back upon the past half-century with wonder as to how the Association had gradually grown up to be the great organisation and institution that it is. The people of the thirteenth century and the Greeks never had such an Association, and yet, somehow, our buildings—our railway stations, hotels, and our Charing Cross-roads—were not animated by the same feeling of love and reverence that influenced the builders of the beautiful abbeys, cathedrals, temples, and castles of the past. Many might be satisfied with present-day results, but some were not; and of these, some, he imagined, would build in the twentieth century and would help to make the architectural history of future times. Knowing, therefore, what the Association is, and remembering the character of the architecture of the day, he could not help wondering whether the education of architects at the Association was really being conducted on the right lines. In regard to education as a science, one noticed the movement that is going on—not only in England but throughout Europe, following on the lines of those famous educationalists, Frœbel, Pestalozzi, and Herbart. These men had considered education as education, and not as instruction. He wished the English people would distinguish more between education, the drawing out of the individual, and instruction, the putting in. He thought that if we followed the lines of these great educational reformers we should, in the twentieth century, perhaps, be able to produce buildings like the wonderful old buildings of the past. This was being done now to some extent by students of the London Board schools, for at a recent exhibition of some Board school students' work there were some drawings and designs that some members of the Architectural Association would be glad to subscribe their names to. He specially referred to the work done by children at the school in Thomas-street, Limehouse, where there were children capable of producing some excellent line work—produced simply on the lines indicated by Pestalozzi, whose teachings were now influencing the educational authorities in Germany. The necessity for such teaching had been seen by Ruskin and William Morris; and Mr. Lethaby was now working out this ideal in London, at the Central School of Arts and Crafts. What position was the Association going to take in regard to this movement? He had listened to the President's address, and to Mr. Adams, and to Mr. Pite, and it seemed to him that the position that the Association was going to take was to have nothing to do with the movement. They were going to follow their own lines, and to be isolated. They were not going to be associated with the rest of the world, nor would they take their proper position at the head of the architectural schools in London; and yet, as the great central institution in London for the education of architects, it seemed to him that they must do so, if architecture in London were to be permanently improved. In keeping their schools private and in surrounding themselves with a high wall of paper and books, they were preventing themselves and their students from executing beautiful work. It was a matter of great regret to him that the Committee took this view so strongly. He only asked for the position to be honestly and thoughtfully discussed, and he was confident that the Association would do the right thing.

Mr. Cole A. Adams then put the vote of thanks, which was carried with acclamation.

The Chairman, in the course of a brief reply, said his difficulty had been to condense the interesting material which he had at his disposal. His principal object had been to put before them a birds'-eye view of the work of the Association, that they might take heart, and go forward with a determination to carry on that work. Those students who entered their ranks would see that the Association was not of recent growth, but that it had been developed gradually by those who desired to carry forward successfully the education of an architect. He hoped that their fifty-first year might be a very successful one, and that they might continue to make good progress.

It was announced that the next meeting would be held on the 22nd instant, when Mr. E. O. Sachs will read a paper entitled, "Lessons from the Paris Bazaar Fire." The Chairman announced that some prominent members of the County Council, and others interested in the subject, would be present on the occasion.

The meeting then terminated.

TECHNICAL EDUCATION AND THE BUILDING TRADES.

A CONFERENCE of representatives of the building trades was held on Wednesday evening at the Craft School, Globe-road, to consider the best way in which the school can supply the needs of the trades as regards technical education.

In welcoming the delegates, Mr. Llewellyn Smith (Chairman of the school), referred to the special objects of the Committee of the school, which was established seven years ago. They did not aim at large numbers in the classes, nor did they seek to train the amateur. Their object was to train the workman, and they had under instruction some sixty carpenters, cabinet makers and other artisans who attended the classes every evening. As they were anxious to make the instruction offered useful to the inhabitants, they invited suggestions from people who were competent to point out deficiencies in the building classes. They were comparatively new to the district, and the Committee wished to encourage students to take advantage of the opportunities offered to them. Such training as the Craft School gave could not be acquired in the workshop. The Chairman then invited discussion.

Mr. G. Dew, of the Society of Carpenters and Joiners, said that the system of apprenticeship had almost died out, and technical classes must be established so that young men could receive technical training. At one time he was opposed to these classes, as were some of the trades-unions, believing that a class of handy men would be produced, and he had always wanted a workman to be made a real mechanic—an efficient workman. He now believed that those who had given the best thought to the establishment of technical classes were actuated by the best motives, and he thought the time had come when the trades-unions should do all they could to assist in getting their lads properly educated in their trades. This was desirable, for the workman who had mastered the scientific side of his trade felt a real pleasure in doing his work. The conditions in the building trade were much changed from what they were when he was a youth, and the change was inevitable. The employer was very often more of a financier, and in the nature of the case he could not take the same interest in his men or their work that he did when he had a few men under his control. Thanks to the technical classes a young man could now get a thorough training in his trade.

Mr. Henry Holloway said that he regretted that he was the only master builder present, but he must add that the absence of other employers did not arise from want of interest in classes of a technical character. In proof of that he need only mention the names of Mr. Stanley Bird and Mr. Thomas Rider, who had aided in developing that work. One reason for the apparent want of interest in meetings like the one he was addressing was of a physical character. A master builder frequently worked twelve or thirteen hours a day, and did not feel capable of doing much more. That technical institutions were of value not only to the building trade but to the public there could not be the slightest doubt. Every one rejoiced in the existence of the great Polytechnics throughout London,

and they believed that the coming generation would benefit very largely from them. They hoped that from the technical education of the present day technical work would be improved. With regard to the question of apprenticeship, he deeply deplored, as other masters did, that in recent years it had fallen out of practice to so large an extent. He did not know whether the masters or the parents of the children were to blame for the decay of that system. When he started business his desire was to do his duty to the building trade, and he thought that if employers would only take the trouble to look out suitable youths, and gave a little time and attention to the matter, there was no reason why the practice of apprenticeship should not be kept up, to the benefit of the building trade generally. His firm had tried that plan rather extensively, and they found that their apprentices made the best workmen. Those firms who did not avail themselves of such benefits were undoubtedly losers. One of the difficulties which masters realised with regard to apprentices was that if they were bound by indenture they became a great trouble. The lads got the idea that if they were bound for a certain number of years they could do as they liked, and that the masters could not get rid of them. He had got over the difficulty in the following way: His firm made a promise, and entered it on the indenture, that when a lad had completed the term of his apprenticeship, and his behaviour had been good during his term, they gave him 5*l.* to set himself up with tools. That promise was an excellent policeman for the boys. He had noticed an apathy on the part of lads in the matter of apprenticeship; they would much rather get in a shop or on a job and take up roughly a trade, and as soon as they could nail up a few boards, or something of that kind, they entered a shop and demanded tenpence an hour. He had the following suggestion to make:—Could not some of the public institutions extend their generosity towards the parents of the boys by offering premiums? He knew that it was already done by some of the companies, who offered premiums to the employers on condition that the lads had a good wage. With such a premium the lad would have a larger wage, and would be induced to take up an apprenticeship. Technical institutions, excellent as they were, must always be looked upon as supplementary to apprenticeship, and they must not take its place. The technical class should be regarded rather as recreation than as serious business. They could not expect teachers in such institutes to turn out proper mechanics. But they could get students to do work which could not be done in the shops, for they had time to impart a thoroughly scientific and theoretic training. These institutions met a want which had been felt in years gone by. The lads got not only a practical knowledge of the handicraft but a theoretic knowledge and demonstrations which could not be got in the workshops. With regard to trades-unionism, at the present time the masters thought that the action of many of the unions did not tend to produce the best workmanship and best workmen. There was a system of levelling down instead of levelling up. In the old time a man was paid according to his skill; if he was a first-class mechanic he got first-class wages; if not, he got something less. The result was that every young fellow in learning a trade had very good reasons why he should make himself perfect because, until he did, the wages he received were not the highest possible. Things were very different to-day. When a young man came of age, whether he had served an apprenticeship or not, he received full wages. That was certainly not satisfactory to the best workmen themselves. As soon as that young man received his tenpence an hour he had no ambition to improve himself. There were certain men who were not worth their money. They could not do the best work, and yet they received the full rate of wages. The masters blamed the trades-unions to a certain extent for that state of things, and they said that the average mechanic was not so good a workman as he was some years ago. He was going to anticipate their argument in answer to this. They would say that if the old state of things should be made to apply to-day, the masters would employ, instead of properly paid mechanics, a lot of duffers, little more than labourers, in order to get the work done cheaper. That was not so. When a man was worth his salt he would always receive good wages. It did not pay an employer to engage a duffer. He thoroughly believed in commencing an apprenticeship when a youth was quite young, and he believed that lads should start at the age of sixteen; but to say that any one should not learn a trade after he was sixteen was unreasonable and unfair. The door ought not to be locked against the many young fellows of eighteen or twenty who desired to change their occupation. What would the professions say if the same thing applied to them? He believed that insistence on this on the part of the unions was depriving the building trade of many useful men. He felt rather despondent that the technical institutions had not brought forward many capable young fellows who could act as foremen. It was his experience, and that of many other master builders, that it was a very hard matter to get general foremen, but he did not know why this should be so. One would have thought that young students would have had a desire to get on. An interesting point was how best to bring the interests of the institutions and the pupils into direct contact with employers of labour. He had previously suggested to the principal of a London polytechnic that a committee of visitors should be formed from amongst master builders, and that they should visit the institutions and interest themselves in the students and their work. Unfortunately, the masters did not very readily respond, and he now suggested that the builders' foremen should act instead. He believed that the masters would reap an advantage from this, for they would get to know some of the promising and likely young men at the institutions.

Mr. Gailey, representing the Plumbers, said that masters did not want to employ half-trained men, but the best men—and they were the men who had been properly trained. Masters, or their foremen, ought to be able to exercise some discretion in the employment of men, and if they were able to do so, the results would be much more satisfactory than at present. The decay of apprenticeship was to be deplored, but it was almost hopeless to attempt to resuscitate it. He wished that mechanics would see that their boys or their mates attended some of the technical classes, and that they would put aside all fear of being superseded by the young and technically trained men.

Mr. Coles, representing the Plasterers, said, in reply to Mr. Holloway, that it was quite true that his Society had inserted in their rules a clause to the effect that no lad should learn his trade after he was sixteen years of age; but they must remember that that really meant seventeen years of age, and he did not think that his Society had taken exception to a boy under the age of seventeen. They were satisfied that if they were to have good mechanics, their lads must be taught early in life. It was not possible to make a good plasterer of a fellow who commenced to learn his trade at the age of twenty. His Society had instituted a system by which the Union comes into direct contact with the boy. In the system of apprenticeship, the boy, when he was bound for five or seven years, was restricted, to a certain extent, by his employer in order to teach the boy his trade, and that was what his Society had determined to do. They thought that the employer did not teach the boys, but that the workmen did, for the boys were always under the observation of the men. His Society were going to try and make their boys efficient workmen in their own way, and they were going to offer inducements to the boys out of their own funds. The speaker then referred to the difficulty of giving technical education to boys who had been engaged all day in their trades, and he specially referred to the fact that Mr. Holloway allowed his boys to get their training in the day-time. Boys ought to have training in the day-time. It was a very difficult matter to get proper accommodation in which to carry on the education of the plasterer. In conclusion, the speaker quoted Ruskin in support of the equality of wage theory.

Sir Philip Magnus said he thoroughly agreed with Mr. Holloway and others in recognising the advantages that would accrue to the trade if some system of apprenticeship could be devised, but it must be remembered that the conditions of the trade were very different from what they were fifty years ago. There was far more division of labour, far more specialised work. He thought it would be acknowledged that the technical classes could not do more than teach the scientific principles underlying the practice of a trade.

Mr. Purcell, representing the French Polishers, having addressed the meeting,

Mr. W. R. Lethaby said that unionism was a subject of interest all over the world. Architects were inclined to think of trades-unionism as a modern evil, but he did not think so. The more they studied the old methods of training workmen and the traditions of workmanship, &c., the more they would realise that unionism went back to the very gates of Eden. In Persia, India, and China we found workmen's unions, and it was these unions in one form or another which had built up the traditions of workmanship which we call architecture. At the same time he thought there was something in the view Mr. Holloway had expressed in regard to the fact that a boy or young man who had "picked up his trade," as it was called, could go to an office and earn full wages at once. Mr. Coles had told them that his union was thinking of teaching the boys engaged in their trade, and he, the speaker, thought that as a complement to that they would have to define "the boy who has learnt his trade." But names were nothing, and just as in the old guilds there were the stages of apprenticeship, companionship, and mastership, so there must be a fairly organised system of labour. He quite agreed with the Ruskinian doctrine of levelling of wages all round, but a Prime Minister had to some extent learned his trade, as had the doctor. He wanted to say a word to the young men there as to the extremely interesting nature of classes. There was no drudgery about them, but a good deal of amusement. That was one of the greatest discoveries which people were beginning to make, and it would be the greatest discovery of the age: the most interesting thing in life, the most interesting thing to be got out of life, was interest in good workmanship.

Mr. Wales, of the Stonemasons' Society, also spoke, remarking that very few masons were attending the technical classes in London. It was not quality, but quantity, that was required from the mason in the present day, and therefore the art and craft of masonry was being entirely lost.

Dr. Garnett, Technical Education Board of the London County Council, also addressed the meeting.

COMPETITIONS.

Congress Building, City of Mexico.—The Mexican Chargé d'Affaires in London requests us to state that he has received instructions from his Government to the effect that any architects engaged in the preparation of competition drawings for the above-named building must deposit their drawings with the Secretary of Communications and Public Works, Mexico, by November 30.

New Lunatic Asylum, Birmingham.—The Lunatic Asylums Committee of Visitors, in their report for presentation at the meeting of the City Council, state that the formal approval of the Home Secretary has been obtained to the conveyance of the Holly Moor Farm land, the acquisition of which was authorised by the Council, and the purchase will be shortly completed. The Committee have had under consideration the next step towards the erection of the asylum—namely, the question of the appointment of architects. The Committee propose, with the approval of the Council, to offer the appointment to Messrs. Martin & Chamberlain, if fair terms can be arranged.

Artisans' Dwellings, Brighton. — An ordinary meeting of the Brighton Corporation was held on the 7th inst., when Councillor Dewe brought forward the report of the Sanitary Committee on the competitive designs for artisans' dwellings. Nine sets of plans were sent in, and after deliberation they had come to the conclusion that the plans marked "Sanitas" were the best, and should be awarded the first premium. They recommended that the 25*l.* second premium should be divided between "O.K.," "Minimum and Maximum," and "Pax." The report was adopted. The envelopes containing the names of the authors of the plans were then opened, and it was found that the plans placed first were the joint work of Mr. T. Garrett, of Ship-street, and Mr. W. C. F. Gillam, of 162, North-street. The authors of other plans mentioned were: "O.K.," Mr. T. Herbert Buckwell, North-street Colonnade; "Minimum and Maximum," Mr. E. Birch and Mr. W. J. Eade, 25, Dyke-road Drive (assistants

in the Surveyor's office); "Pax," Mr. C. Nye, Duke-street.

Brewery, Darlaston.—In a limited competition for a new brewery at Darlaston, the designs of Messrs. J. H. Hickton & H. E. Farmer, architects, Walsall, have been placed first by the assessor, Mr. Wells, of Birmingham. Messrs. Hickton & Farmer have been instructed to proceed with the work.

Illustrations.

SCULPTURE: "AT THE GATES OF THE PAST."

THIS work, by Miss Esther M. Moore, occupied a prominent position among the sculpture exhibits in the Octagon Hall at the Royal Academy exhibition of this year, and we drew attention to it, in reviewing the sculpture of the year, as one of the best works by a lady sculptor which had been seen at the Academy for some time.

Miss Moore sends us the following note as to the idea embodied in the work:—

"'At the Gates of the Past' is wholly allegorical. The figure is intended to be thinking sadly of the Past, which is shut behind the gate, never to return. The small panel at the top represents dead Hope, with a broken lyre lying on the clouds of the setting sun. The poppies on the step at the bottom are intended to symbolise that the Past is asleep."

SCULPTURE: "THE AGE OF INNOCENCE."

This charming bust, the title of which explains itself, was exhibited in the Lecture Room at the last Royal Academy exhibition.

The bust, which is life-size and executed in bronze, is now in the possession of Mr. Franklin Thomasson, of Heaton, Bolton.

The illustration is from a photograph specially taken from the plaster model, which brings out the modelling better and avoids a too dark shadow under the chin, which was the drawback to some other published illustrations of the work.

CHURCH OF SAINT MICHAEL AND ALL ANGELS, LITTLE ILFORD.

Little Ilford is one of those places to the east of London, in the county of Essex, which has of late years grown from a small village with a population of a few hundred to a suburb of London with a population of some thousands. The old parish church will only accommodate a small number of worshippers; a new church is urgently needed, and the clergy have by dint of great effort collected a sufficient sum of money to enable them to undertake the building of the nave and aisles of a new church, which will when complete accommodate about 820 people.

It was an essential condition that the church should cost as little as possible, and also comply with the requirements of the Ecclesiastical Commissioners and of the Incorporated Church Building Society. The estimates for the complete building are under 7,000*l*. The church has a wide nave and aisles spanned by a single roof; a chancel with a narrow aisle on each side; side chapel on the south; vestries and an organ-transept on the north; and a baptistry and two porches at the west end, which faces the Romford-road.

The church will be lighted by a seven-light west window, and a large three-light window in each bay of the aisles. There will also be a flèche covered with cast lead. This will carry the bells, and a large automatic air-pump will be fixed in it to ventilate the church. The walls are of red brick, the roofs and weatherings of the buttresses will be covered with red tiles. The mullions, and jambs and heads of the windows, and the columns of the internal arcades, are of Bath stone, with red-brick arches and stone springers.

The nave is spanned by a hammerbeam roof framed of fir, and the principal rafters are continued across the aisles, and framed with a tie-beam truss at the back of each column. Internally the walls are plastered, and the benches will be painted.

The portion of the building at present being carried out reaches to and includes the chancel arch. The chancel and vestries and the side chapel will be added as soon as sufficient money has been collected to pay for the work. Messrs. Cornish & Gaymer, of North Walsham, are carrying out the work, under the superintendence of Mr. Charles Spooner, the architect.

The drawing was exhibited at the last Royal Academy.

DESIGN FOR A MONUMENT TO SEBASTIAN CABOT.

This design was made in competition early in the year for a monument to commemorate the voyage of Sebastian Cabot to America, to be placed upon a hill at Bristol, overlooking the River Avon along which Cabot passed to the sea.

The monument, square in plan, was to form the pedestal to a bronze statue of Cabot, about 8 ft. high, and facing westward in the direction of his voyage.

On the four sides of the pedestal were to be placed life-size statues in bronze representing soldiers and seamen in the dress of Cabot's time; the figure of a man-at-arms on the westward face, shading his eye as if scanning the horizon, while that on the eastward side, towards Bristol, represents a seaman carrying a treasure chest ashore. On the four sides of the carved frieze below the principal statue were to be placed shields with the arms of England, Spain, Bristol, and of Cabot himself; while below the four minor figures are panels, three of which are intended to bear bronze bas reliefs illustrating the departure, arrival, and return of Cabot's ship, the fourth being occupied by an inscription. Immediately below these panels were to be four stone benches. The dressed stonework and all external masonry was to be in Portland stone, the steps in Pennant or some hard local stone. The total height of the monument as designed is about 38 ft. The illustration is from the authors' drawing.

BURY PUBLIC DRINKING FOUNTAIN.

This fountain is an anonymous gift to the town of Bury, and has been erected near Buckley Wells, on the Manchester road. It provides three horse-troughs and a man's drinking-place on the remaining side, with access to pipe chamber also, while our canine friends are provided for on three sides. The angle ball terminals are placed as "fenders" to keep off the heavy traffic from damaging the work, and are let down well into the concrete foundation.

The work has been executed in the materials described on the drawing by Messrs. Goad, of Plymouth, with spirit and care; the kind of lock-jointing of so much importance in a work like this fits with great precision. Messrs. Perry & Co. executed the central bronze figure which feeds the troughs. The gift was offered to the town through Mr. W. Noar, of Bury.

T. R. Kitsell.

SWILLAND CHURCH.

This church, which is dedicated to St. Mary, has recently been partly restored, the main feature being a new top to the tower. The church, consisting of nave and chancel, is a Norman structure, and possesses a very fine south door of that period. The tower is fifteenth century brick, and the upper part had fallen down and had been replaced by an unsightly wooden pyramid roof. This has been taken down, and the present work completed in solid oak framing with herring-bone brick-nogging. The roof is covered with Broseley tiles, and the whole is surmounted by a copper-covered fleche. The work has been carried out by Messrs. Gibbons & English, of Crowfield, under the superintendence of Mr. John S. Corder, of Ipswich.

The church internally has been beautifully decorated with frescoes, and some time ago an elaborate reredos was placed at the east end. All the works and decorations were carried out through the energy of the late Rector, the Rev. R. H. Faulconer.

WAYSIDE NOTES IN EAST ANGLIA:

PARHAM AND SMALLBRIDGE HALLS.

Among the many moated halls of Suffolk few can compare in charm of surroundings with the two specimens illustrated here. The situation of each one differs widely from the other, Parham being placed upon a bold eminence, and Smallbridge in the picturesque valley of the River Stour. Yet both have a separate and particular charm, and will well repay a visit.

As I described in a short paragraph in connexion with a sketch of Parham gateway (see *ante*, page 133), the leading points of Parham, I will confine myself to Smallbridge, the residence of a branch of the ancient family of Waldegrave.

The house, originally no doubt on the E plan, but now considerably altered, stands very near to the river, yet notwithstanding this a moat has been dug all round the house, and traverses the intervening space between the house and the river. This moat is crossed by a bold roadway flanked with substantial brick piers where the original gateway hung, and the entrance to the hall was immediately in the rear of the portion shown in the sketch. The house is entirely built of brick, portions being plastered to imitate stone, and the style is Tudor or very early Elizabethan. The virgin Queen stayed there on two occasions, in 1561 and again in 1579; a record of the expenses of the first visit being preserved in the Cottonian MSS., British Museum. On this occasion she made a two days' stay, and the expenses mounted up to £245. 14s. 2d. money of the time.

The family of Waldegrave is said to have flourished at Walgrave, in Northamptonshire, before the Conquest, and derived their name from that place. After the Conquest the Walgraves, or Waldegraves, received a re-grant of their lands from the Conqueror.

According to Stow, John de Walgrave was Sheriff of London in 1205. He was the direct ancestor of Sir Richard Waldegrave, of Smallbridge, who served as Knight of the Shire in the reigns of Edward III. and Richard II., and was Speaker in the House of Commons in 1381. He married Joan, heiress of the Silvesters, and by this alliance acquired the Lordship of Bures and Silvesters. He died in 1410, and was buried at Bures Church. A descendant of this John was Sir William Waldegrave, who married Elizabeth, daughter of Sir Thomas Mildmay, and his arms, dated 1572, may still be seen in a window at Smallbridge Hall, showing by the numerous quarterings that they were allied to many great and noble families.

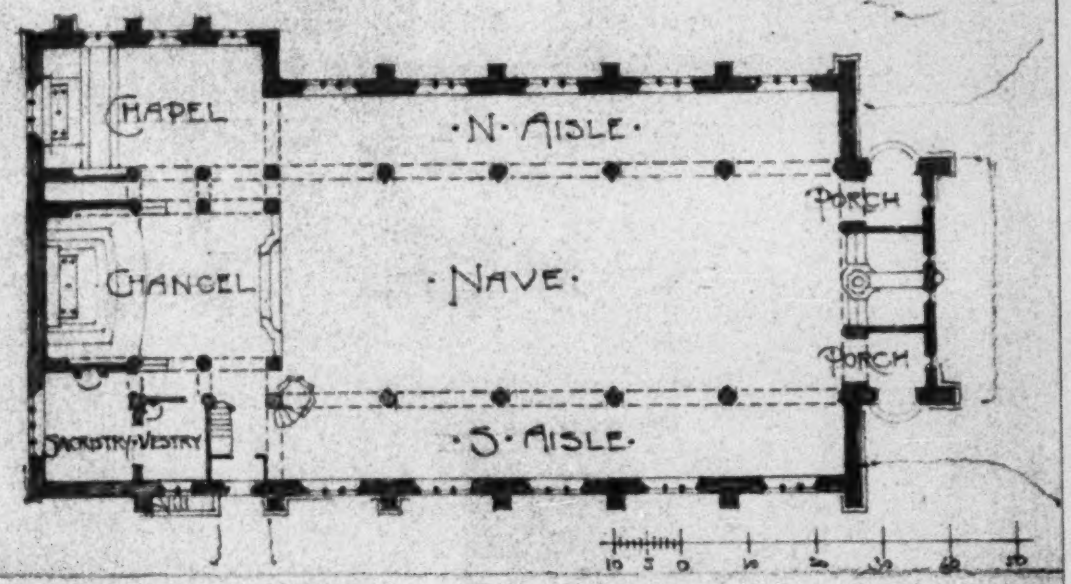
Many of the rooms are panelled in oak, and a sketch is shown of the fireplace in the state chamber, indicating in the elaborate detail the importance of the apartment. The mansion and estate passed from the possession of the Waldegraves in the eighteenth century, and the house is now turned into a farm dwelling.

ARCHITECTURAL SOCIETIES.

Edinburgh Architectural Society.—The opening meeting of the second half of the session of the Edinburgh Architectural Society was held in Dowell's Rooms on the 6th inst. Mr. J. A. Williamson, the President, gave his opening address, entitled "Architecture of the Victorian Era," in which he sketched in outline the various phases through which architecture had passed during the Queen's reign, bringing the history down to the latest date. The nett result, the lecturer pointed out, of the architectural activity of the last sixty years was that, compared with any former time, there was a greater wealth and variety of models to select from. But at present a stage of architectural licence had been reached in which Gothic and Classic forms and features were blended with surprising ingenuity, which the lecturer considered might defeat its own object, ending in reaction towards more archaic form.

Sheffield Society of Architects and Surveyors.—The opening meeting of the session was held at the School of Art on Tuesday evening, the President, Mr. R. W. Fowler, in the chair. The President delivered his opening address. In the course of it he observed that they were desirous of securing a habitation of their own; but, so far, owing to want of funds, that had been impossible to obtain; and following that, the collecting together of a library of professional and scientific works, a commencement with which had already been made. The conditions of competition for School Board work were not at all satisfactory, and the Council appointed a deputation, consisting of Messrs. Hadfield, Gibbs, and Innocent, to discuss the matter with the Board. The result of their interview had been to obtain an increase in the architects' fee from 6s. to 7s. 6d. per head of school accommodation, and some alteration in the conditions. The Corporation made formal recognition of the Society by throwing open to the members of it practising in Sheffield a competition

CHURCH OF SS. MICHAEL & ALL ANGELS AT LITTLE ILFORD



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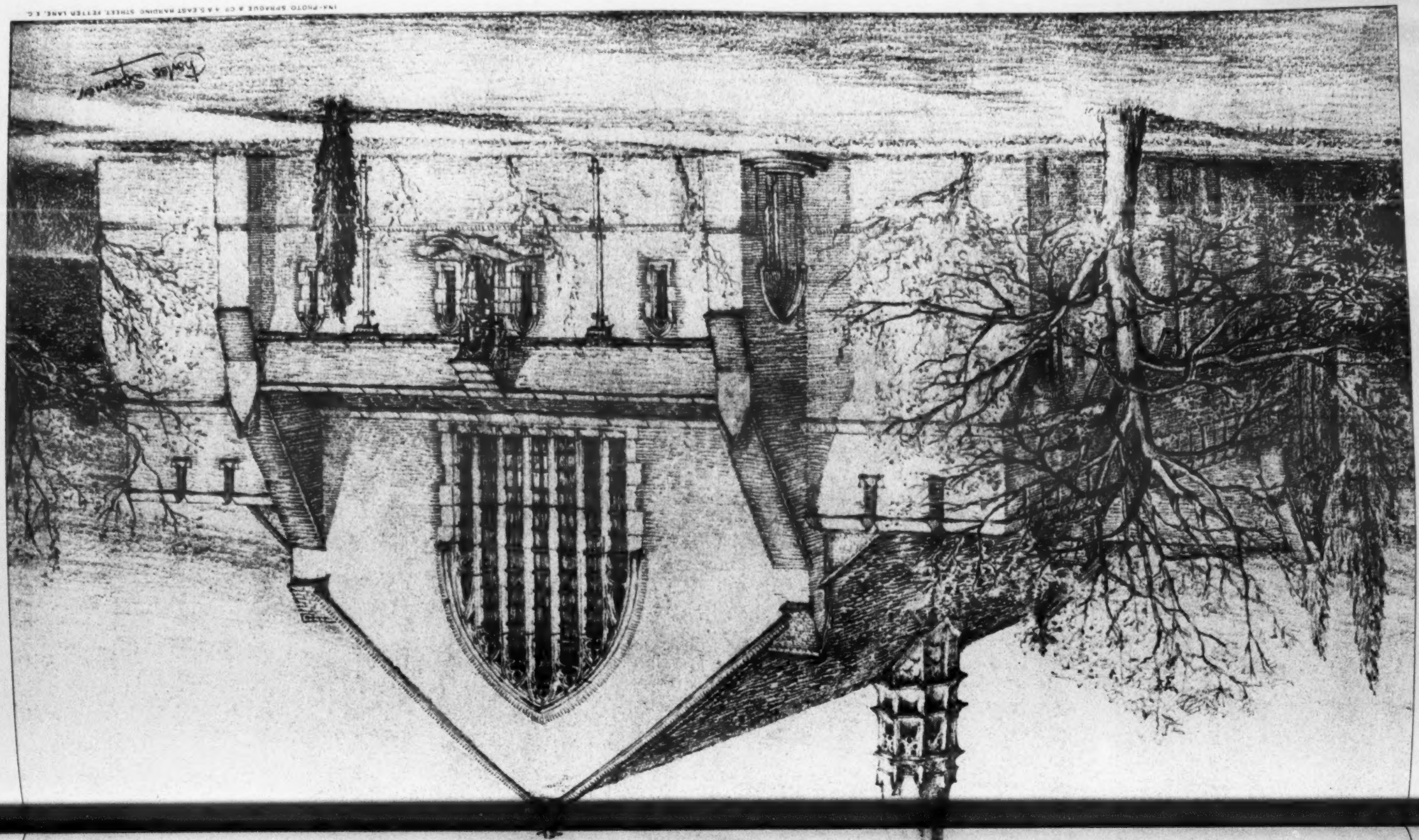

Swilland Church
Suffolk
New Tower Top

John Shrewell Corder
Architect

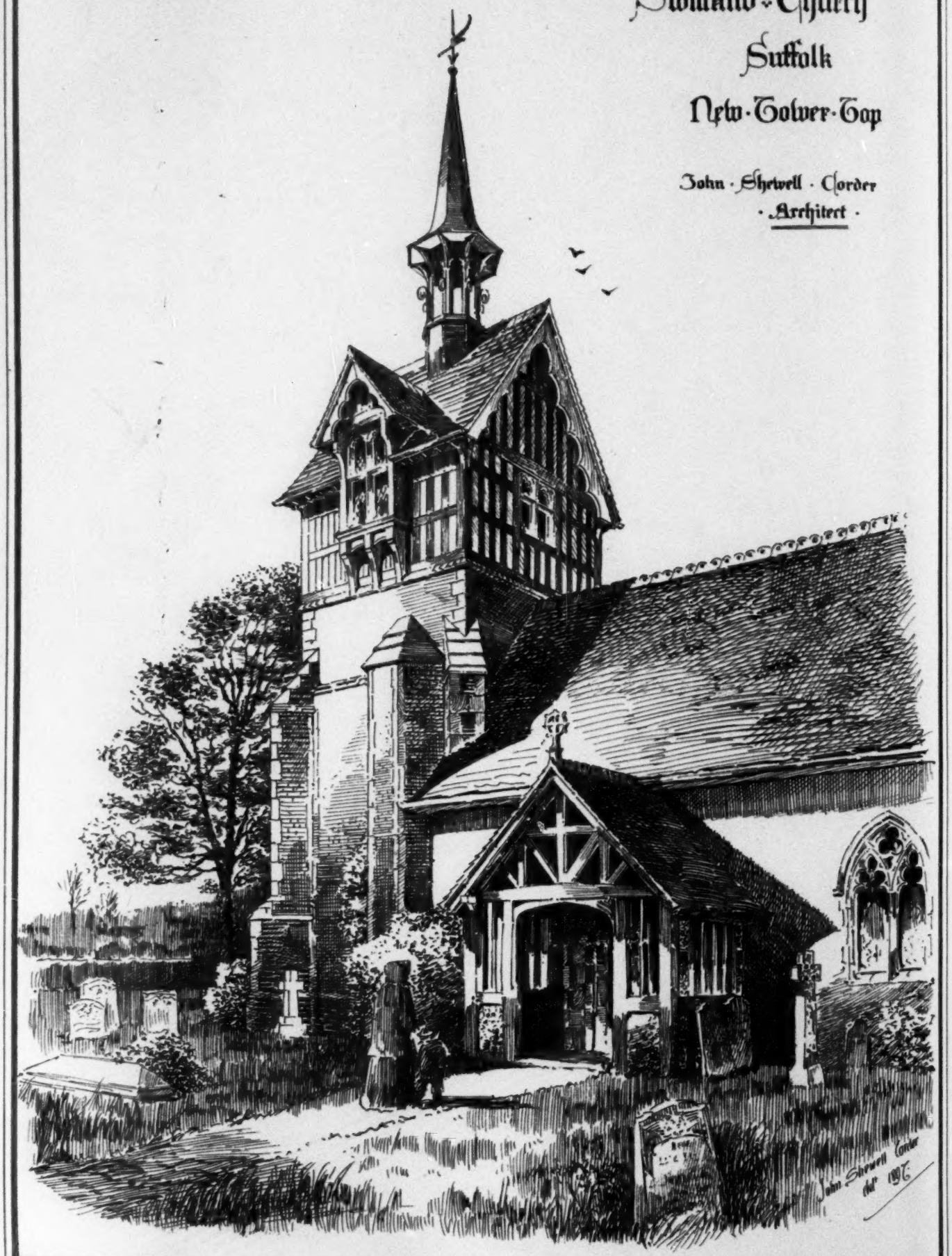

PHOTO-LITHO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

DESIGN FOR CABOT MEMORIAL AT BRISTOL.

By Mr. E. P. Warren.

Scale of Feet.

PLAN

SOUTH ELEVATION.

Ink. Photo. Bemrose & Co., 4 & 5 East Harding Street, Fetter Lane, E.C.

198-PHOTO. SPRAGUE & CO. 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

SCULPTURE: "AT THE GATES OF THE PAST."—By Miss Esther M. Moore

[R.K. PHOTO. SPRAGUE & Co. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

SCULPTURE "THE AGE OF INNOCENCE."—By Mr. Alfred Drury

Horse's head on Keystone of arch
Half plan thro' Columns
Half plan thro' parapet
HORSE
The Base portion is of Corn an Granite The columns & Central vase of Peterhead Polished Granite (red) The figure is of Bronze, & all the upper part is Portland stone.
T. R. K.

PHOTO-LITH. SPRAGUE & CO. 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

PUBLIC DRINKING FOUNTAIN, BURY, LANCASHIRE.—Mr. T. Rogers Kitsell, A.R.I.B.A., Architect.

SMALLBRIDGE HALL.

PHOTO-LITHO. SPRAGUE & Co. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

PARHAM HALL.

SKETCHES IN EAST ANGLIA.—By Mr. J. S. Corder.

for a fire brigade station, and also appointed its officers as assessors, and he pointed out the advantage accruing to the Corporation from throwing open such competitions to their body, instead of employing an architectural staff of their own, whose services could not always be in requisition, and who yet must necessarily be a permanent expense. They thus obtained the talents of practically the whole architectural profession in the neighbourhood, with very beneficial results, not only to themselves, but to the ratepayers at large. He congratulated the Society on the decision of the Wofinden trustees to throw open to competition amongst the whole of the members of that Society the designs for the erection of a convalescent home and almshouses. For that they were indebted to the good offices of one of the trustees, a member of their Society, Mr. Gibbs. After alluding to the excursions in the past sessions, and the lectures arranged for the forthcoming session, he paid a tribute to the work of the hon. secretary, Mr. C. J. Innocent. He proceeded to observe that the past year had been one of considerable prosperity in the city, in which, judging by the lengths of new roads opened out, and the number of new houses in course of erection, their profession had certainly had its share. Whether this prosperity would continue, or whether the present disastrous strike which was paralysing the engineering industry might retard it, was not wise to prophesy.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council was held on Tuesday in the County Hall, Spring-gardens, Dr. Collins, the Chairman, presiding.

Loans. — On the recommendation of the Finance Committee it was agreed to lend the Battersea Vestry 8,322*l.* towards paying the cost of widening Battersea Park-road; the Bermondsey Vestry 1,100*l.* towards the cost of acquiring Guy's burial ground; the Hackney Vestry 37,100*l.* for wood-paving works; the Newington Vestry 2,500*l.* towards the cost of acquiring a site in East-street, Walworth, as a recreation ground, and 1,800*l.* towards the cost of constructing an underground convenience; the Rotherhithe Vestry 6,000*l.* for the adaptation of Bull Head Dock and Victoria Oil Mills as a wharf, and the erection of a dust-destructor; the Vestry of St. George's (East) 2,500*l.* for the construction of a sewer in Watney-street; the Shoreditch Vestry 4,550*l.* for the purchase of the site of the old fire station for use as additional Vestry offices; the Strand District Board 3,580*l.* for an improvement in Portugal-street, Clare Market; the Holborn Union 1,200*l.* for the erection and furnishing of epileptic wards; and the School Board for London 200,000*l.* for the erection of new schools.

The New Chemist.—The General Purposes Committee recommended the Council to appoint Dr. F. Clowes, D.Sc., as Chemist, in the place of Mr. Dibdin, at 700*l.* a year. This was agreed to without discussion.

Olympia.—The Theatres and Music Halls Committee brought up a report containing the following paragraph :—

"We have considered five drawings, dated September 22, 1897, showing certain alterations which it is proposed to carry out at Olympia, Kensington, in connexion with Messrs. Barnum & Bailey's Show, which is to occupy these premises. The arrangements shown are, we consider, objectionable, as the division between the stage and the auditorium is unsatisfactory. The arrangements in connexion with the stabling are also unsatisfactory. We recommend :—That the five drawings, dated September 22, 1897, be not approved."

Major Probyn said he believed that if the Council adopted the recommendation it would prejudice the application. He moved to refer the paragraph back.

Mr. Bull seconded.

Mr. Roberts said he was sorry he could not take the report back. It would be most unfortunate to do so. It did not prejudice any further application in the least. The plans now submitted were such that they could not pass them. They disclosed a stage in the auditorium, a proscenium open 250 ft., with no fireproof separation or wall, and the stage conditions were such as they had never before passed. It was also proposed to put up a stage in a stable with over 300 horses in it. The whole scheme was so novel, and seemed to the Committee so objectionable, that it ought to be emphatically rejected by the Council. There were many matters of construction allowed in America which could not be permitted to come into this country. He hoped the Council would refuse the application as it stood. The Committee would be very glad to consider any fresh plans that might be sent in.

Mr. W. Emden supported the Committee's recommendation.

Mr. Lawson said time was the essence of the question, and therefore it was important that the Committee's decision as to what they required should be immediately communicated to the promoters, so that they might have an opportunity of doing the necessary work in time to enable them to keep faith with the public in regard to the opening of this enormous show.

The amendment was rejected, and the Committee's recommendation was adopted.

Proposed New Theatre, Charing Cross-road.—The same Committee brought up the following paragraph, the recommendations being agreed to :—

"We have considered six drawings, dated September 24, 1897, showing a theatre which it is proposed to erect for Mr. Charles Wyndham in the Charing Cross-road and St. Martin's-court. The site abuts on Charing Cross-road on one side, and on St. Martin's-court on the other three sides. St. Martin's-court on the south side will be widened to 20 ft. throughout its entire length to St. Martin's-lane, and the site will therefore comply with the regulations. The theatre will accommodate 829 persons, and the exit and other arrangements are satisfactory. We therefore recommend :—That the six drawings, dated September 24, 1897, be approved on the following conditions: 1. That the skew steps from the dress circle to the saloon and from the balcony to the exit staircase be arranged at right angles to the walls. 2. That the works be commenced within six months, and be completed in accordance with the Council's regulations and the provisions of the London Building Act, 1894; and that upon our reporting the completion of the building in accordance with the approved drawings and the above conditions, a certificate under the Metropolis Management and Building Acts Amendment Act, 1878, be sealed and issued to the owner of the premises."

Sanitary and Drainage Work at Fire Stations.—The Fire Brigade Committee reported as follows :—

"The Council on December 22, 1896, and February 9, 1897, decided that some sanitary work required throughout the chief station, and the reconstruction of the drainage system of the Kentish Town station should be executed without the intervention of a contractor, and referred the specifications, quantities, and estimates to the Works Committee with a view to the Works Department doing the work in the event of the Works Committee being satisfied with the sufficiency of the architect's estimates of 665*l.* and 455*l.* The manager has now reported to us under the standing order passed on July 20, 1897, that he is satisfied with the estimates, and that he is taking the necessary steps to commence the work at the Kentish Town station, and that the work at the chief station is well in hand."

Mr. Westacott asked why there had been so much delay in the matter.

Mr. Corbett said that Mr. Westacott had overlooked certain words in the report. The work was referred to the Works Committee, which sufficiently explained the delay.

Mr. Westacott asked when the work was referred to the Committee.

Colonel Rotton, Chairman of the Committee, said he would make inquiries into the matter.

Fire Station at Lewisham.—As only one tender—that of Messrs. F. & M. Patrick—was received for the erection of a new fire-engine station at Lewisham, and that considerably in excess of the estimate, the Committee recommended the Council not to entertain the tender.

Mr. Lyon asked how much the tender was in excess of the Architect's estimate.

Colonel Rotton said that they were advised by the Architect that, as only one tender had been sent in, it would be better to send it back unopened; but the Committee were of a different opinion. He thought it was undesirable to state the amount of the tender.

Mr. Hoare moved, as an amendment, that the paragraph be referred back to the Committee, with instructions to state the amount by which the tender exceeded the Architect's estimate.

Mr. R. Spokes seconded.

Mr. Ward said he could not understand why the amount of a tender should not be made public when it exceeded the Architect's estimate.

Mr. J. Burns, M.P., said he could see no reason why the amount should not be stated. The Architect's estimate was 12,000*l.*, and Messrs. Patrick tendered at 14,200*l.* The Architect was really asking permission to take back the plans and water them down to the 12,000*l.* estimate. Builders were under the impression that so many members of the Council were opposed to the Council doing its own work, that they need not tender as they would in the ordinary course of events.

Mr. Bicker-Caarten said that Mr. Burns knew nothing about the matter. The new Chief of the Fire Brigade was considering the question of the protection of London buildings from fire, and it was thought desirable, when only one tender was received, which was so much in excess of the Architect's estimate, to send the plans back in order to have alterations made in accordance with the views of the new Chief Officer. The speaker also referred to the Council's conditions of contract, which, he said, prevented many of the best London firms from tendering for the Council's work.

Mr. W. Emden said that that was undoubtedly true. There was also such a feeling of uncertainty amongst the builders as to what was going to happen that they did not care about undertaking the Council's work. While the conditions of contract remained as they now are, it was little good inviting the best builders to tender for the Council's work.

On a division 50 voted for the amendment and 55 against.

Typhoid and the Water Supply. — Mr. Cornwall moved : "That it be referred to the Public Health and Water Committees to inquire and report whether the causes which have led to the typhoid fever epidemic in Maidstone have any parallel in the conditions of the London water supply, and what steps, if any, should be taken to prevent the propagation of the disease in London." He said that the example of Maidstone ought to ensure an immediate inquiry by the Council into the state of London's drinking water. He did not dispute that the water was day by day fit to drink, but it was quite apparent that London was in constant danger from pollutions of the rivers.

Mr. Idris, in seconding the motion, said, as a member of the Thames Conservancy Board, he knew that both the Thames and the Lea were being constantly polluted. As an instance, he quoted the case of Hertford. A foul ditch there had for a long time been running into the water of the East London Company, and the only way the company could stop it was by buying up the right of the Local Authorities to use this ditch. Another source of pollution was at Maidenhead, the Thames Conservancy inspector having reported that the condition of the water there from sewage pollution was very unsatisfactory. He described the pollution as of long standing. It was difficult to get the Conservators to take proper action because the River Purification Committee of that body consisted very largely of people interested in the land in the Thames Valley, and who thought it unjust that they should be compelled to purify at their own cost the effluents in order to provide drinking water for London. With regard to the pollution of the rivers by barges, it was a fact that the refuse of London was constantly being taken up and down in the most leaky and rotten barges to be obtained. The water which found its way into them was constantly being pumped out into the river. That was a great source of danger which merited earnest consideration.

Dr. Forman said the Public Control Committee had been watching the course of the epidemic at Maidstone, but had noticed no rise in typhoid cases in London.

Dr. Longstaff denied that there was any parallel between Maidstone and London. There was less danger of an epidemic in London from Thames water than there would be if the water supply were wholly dependent upon a conduit from Wales.

Mr. Boulnois, M.P., on behalf of the water companies, welcomed any inquiry, feeling sure that the companies would come out of it as well as they had of previous inquiries, and that the report would go to further assure the people that the water supply was a pure one.

Mr. Ward said it was generally supposed that sewage farms kept the sewage out of the rivers, but in times of flood all the sewage farms in the world would not keep crude sewage out. There were at times of high flood thirty-five overflows of raw sewage into the Thames. It was very clear that cholera and typhoid germs must sometimes go direct into the river, and the wonder to him was that with all this pollution London had kept so free from disease.

The motion was then agreed to, and the Council soon after adjourned.

Correspondence.

To the Editor of THE BUILDER.

ASSUMPTION OF THE INITIALS "F.S.A."

SIR,—I have just had placed in my hands a copy at the list of officers and members of the Institute of Architects and Surveyors for 1897.

The President is therein stated to be "J. Herbert Wilkinson, Esq., F.S.A., F.R.S.S.," and the auditor to be "E. J. Farries, Esq., F.S.A., F.S.A.A."

I do not know what "F.R.S.S." or "F.S.A.A." may mean, but will you please permit me to state that the name of neither Mr. J. Herbert Wilkinson nor Mr. E. J. Farries appears in the list of Fellows of the Society of Antiquaries?

W. H. ST. JOHN HOPE.

Soc. Antiq., Lond.,
Burlington House, Piccadilly, W.

SHEFFIELD ARCHITECTURE.

SIR,—In your description of Sheffield architecture in this week's *Builder* you refer to the *late* T. J. Flockton. We are pleased to say that Mr. Flockton is still taking an active part in his profession.

Mr. A. H. Holland's premises, No. 9, Fargate, should have been described as by Flockton & Gibbs and Alwyn H. Holland, joint architects.

We shall be obliged if you will kindly make these two corrections.

FLOCKTON, GIBBS, & FLOCKTON.

THE OPEN CHANNEL IN SANITARY DRAINAGE.

SIR,—I beg to agree with all that Mr. Gritton states in his letter, published in last week's issue of the *Builder*, respecting the nuisance caused by the fouling of open channels when fixed beneath scullery sink wastes, in districts where certain sanitary by-laws are in operation. I also wish to state the difficulty found in practice of dealing with the grease discharged from scullery sinks of small private houses, where the expense of a flushing-rim grease-gulley and tank are out of the question. In houses of the above description it is generally found that the ordinary gulley provided is choked with grease and very foul, as the domestic will not trouble to raise and cleanse the small iron bucket which, to some extent, intercepts the grease; hence an accumulation of the latter takes place. Also, in the case where a small circular gulley is provided, there is not always a sufficient flush of water from the sink waste to cleanse the gulley.

It seems a pity that some means cannot be devised to make use of the grease discharged from scullery sinks, instead of allowing it to enter the drain and become a nuisance. If it could be collected in a satisfactory manner, it might be turned to account and prove useful in helping to light the kitchen fire on a dull day; or else, if clarified, might be used as a cart grease.

A. S.

The Student's Column.

QUANTITIES AND QUANTITY-TAKING.

CHAPTER XIII.—MODES OF MEASUREMENT.

Zinc and Copper Work. Hot-water Work, &c.

Zinc Work.

THE various thicknesses of zinc are denominated by "numbers," such as "12 gauge," "14 gauge," &c., but the matter is somewhat complicated by the fact that there are two distinct systems of numbering, the "English" and the "Vieille Montagne Zinc Company's," Zinc manufactured by the last mentioned company being generally considered the material for good work. It follows then that besides the number of the gauge the particular system of numbering must also be stated. In the event of "No. gauge Vieille Montagne zinc" being described, it will follow that the gauge is that of the "V.M. Company."

Another point to be mentioned—and this is the difference between the best and inferior work—is as to whether the work is to be executed "without solder." This allows for the expansion and contraction of the sheets, and thus prolongs the life of the work.

Zinc being made in sheets about 2 ft. 10 in. by 8 ft., the rolls are usually taken at about 2 ft. 8 in. centres, and the drips 7 ft. 6 in. apart, it being thus possible to get each bay out of one sheet without joins. The rule as to drips also follows in the gutters.

Flats, per foot superficial, stating the "gauge." It was formerly the practice to measure zinc work in the same manner as lead work, but, owing doubtless to the fact that more attention has been given of late years to the laying of the former material, by which the work is of a much higher class than formerly, the following is the system usually adopted:—Measure the full *width* of the flat and, after allowing for "turn ups" next walls, add the *extra* for turn ups next rolls; the *length* being measured as for lead work, but the allowances for drips being more numerous on account of their being a less distance apart.

The cappings to rolls are measured at *per foot run*, stating the girt of the zinc and including the clips.

The ends to rolls are *numbered* as "capped ends," and "saddle pieces," as are also mitres, stating if "solid," *i.e.*, out of one piece of zinc without solder, or "soldered," as the case may be.

Whereas, in lead work it is usual to bill gutters, flats, and flashings together, in zinc work each item is kept separate.

Gutters, per foot superficial, stating the gauge, measure generally as described for lead.

Flashings, per foot run.—Stating the gauge and the width, and if "stepped." The bottom edge of zinc flashings are frequently "beaded" for strength. If this is so, mention with the description of the item.

Soakers.—Number these, stating gauge and size. Zinc is frequently used instead of lead for these on account of the lesser thickness of the former material, thus working in between the slates and tiles without the tilting caused by the greater thickness of the lead.

Rain-pipes, per foot run, stating gauge and diameter and the description of joints—"beaded" or otherwise—and how fixed. *Number* shoes, knees over plinths, &c.

Eaves gutters, per foot run, stating gauge, shape and size, and how fixed; whether screwed through to fascia or fixed with iron brackets; in the latter case give description of brackets and the distance apart. *Number* ends, outlets, angles, &c., as described to iron gutters.

Coverings to Cornices, &c., per foot run, generally; stating the gauge and the girt of moulding, *numbering* the angles, &c.

Labours, &c., per foot run.—Welt, double welt, zinc nailing, &c. *Number* extra labour to cesspools, also labour and materials to finials, rain-water heads, &c., giving sizes and full descriptions.

Copper Work.

The system of measuring zinc work applies also generally to copper work, with this exception, that whereas the thickness of zinc is distinguished by "gauges," that of copper is by the number of ounces per foot superficial, as "14 oz.," "16 oz.," &c.

Hot Water Work.

Tubes, per foot run.—State diameter, the full description of tubes, whether "wrought iron welded," "steam," and if galvanised, and state that the item includes short pieces. *Number* bends, elbows, springs, tees, connectors, nipples, &c. *Note* that it is advisable to take "disconnecting pieces" and long screws in long lengths of pipes to enable the work to be disconnected for repairs in the case of stoppage, &c.

Cylinders, Tanks, &c.—Number these, stating whether copper or galvanised iron, with the thickness and also the capacity. They are frequently described as "tested up to lbs. per square inch." *Number* the connexions between pipes and cylinders and tanks and boiler, including the holes and the back nuts.

Valves, &c.—Note that these must be screwed for iron, and if no p.c. or l.p. is given, give full description and state that they are for "hot water." If baths or lavatories come fitted complete with valves, &c., take an item of "connecting hot-water pipe to bath valves, &c.," as the case may be.

At the end of the "Hot Water Work" in bill, take an item of "testing the hot water system," frequently described "at lbs. pressure."

Gas-fitter.

The gas-fitting is frequently put in as a "provisional sum," but as it has sometimes to be measured, a few notes as to the system employed will be useful.

Tubing, per foot run, stating diameter, and whether "composition" or "wrought iron." If the latter, it is usual to include all bends, elbows, tees, short pieces, &c., stating this in the item. Where it is proposed to put in only the pipes, take "nipples" at the different "points" to stop off.

The Gas Company usually lay on the gas up to the meter without charge. If the meter is supplied by the contractor, *number* this, describing the number of lights, and whether "wet" or "dry." If the meter is supplied by the company at a rental, take an item of "fixing only meter," including with it the length of lead pipe connecting the meter with the main. If a small meter, take a wood bracket for same.

Fittings are usually given at a p.c. or l.p., and if given as a lump sum, take an item as *number*, of fixing "wall brackets," "one (two or three) light pendants," as the case may be.

Number blocks for brackets.

Take an item of "attendance" on gas-fitting to "No. points," including with this holes through floors and walls, and fixing floor boards with screws for removal.

At the end of the gas-fitter's bill take an item of "Allow for testing gas services with gas-bag."

Bell-fitter.

Bell-fitting is also frequently put in at a "provisional sum," but if to be billed in detail the following system may be adopted:—

In the case of *Swing Bells, number* these, stating the weight to each, and whether pendulums are included, and take the wires as *numbers*, also including brackets, &c., and describing the wire, *i.e.*, material, B.W.G., &c., and stating if in tubes, and the material, and if bedded in plaster. Bill these as "No. pull from——to ring bell in——," and so on. This, of course, necessitates reference to the drawings, but a glance at the drawings will give a bell-fitter a better idea of the extent of the work than any measurement.

Number pulls (at p.c. or l.p.), also bell-boards (stating for No. bells).

In the case of *Electric bells* somewhat the same system can be adopted, but frequently one bell or gong answers for a number of points, in this case an "indicator" is required. *Number* this, stating for how many bells, and also the description of bell or gong. Describe the wires by B.W.G., and the covering of same. *Number* pulls as described for swing bells.

Take an item of attendance on "No. bells."

Speaking Tubes.

These are generally put in the bill as a "provisional sum," but if to be measured, the following system may be adopted:—

Tubing, per foot run.—State diameter and material and the weight per foot or per yard run, including the bends. *Number* the brass bends or elbows at ends, and also the mouth-prices (the latter at a p.c. or l.p.).

Take the cutting away and making good for these in detail, numbering holes through walls and floors and making good the plastering around.

Electric Lighting.

As this item is so much a question of quality of material, it is usual to obtain a price for this from some reliable fitter. Take, however, an item of attendance to "No. points."

SURVEYORSHIPS.

SURVEYORSHIP, FLEETWOOD.—Mr. Robert T. Hayes, A.M.I.C.E., the chief Assistant Borough Engineer and Surveyor to the Corporation of Rawtenstall, was on Thursday last week appointed Surveyor to the Fleetwood Urban District Council. There were seventy-five applications for the position.

SURVEYORSHIP, SHERINGHAM.—At a meeting of the Erpingham Rural District Council, held on the 11th inst., Mr. Charles D. Watts, of the firm of Watts & Carter, architects and surveyors, of Sheringham and Cromer, was appointed Surveyor to this Council. It was at first proposed to include Mundesley and Overstrand, but it was ultimately decided to consider this addition to the surveyorship later.

GENERAL BUILDING NEWS.

JUBILEE MEMORIAL CHAPEL, GIGGLESWICK SCHOOL, YORKSHIRE.—The memorial stone has just been laid of a new chapel, which is the gift of Mr. Walter Morrison, M.P., to Giggleswick School, in commemoration of the sixtieth year of her Majesty's reign. The plan consists of a Latin cross, with a dome over the crossing, surrounded at the four angles by turrets, which are crowned by small cupolas. The choir is placed under the dome, and the shallow transepts contain each a gallery, that in the north transept being intended for the organ. The school will occupy the nave, which is lit by a lofty clearstory, and has a narrow and low aisle on each side for access to the pews. The materials will be chiefly the local stone of various kinds, including a black limestone, which

will be used in bands with the lighter coloured masonry. The dome will be surmounted by a stone lantern and a cross of gilded metal, resembling those on Oriental churches. The principal dimensions are :—Length, 101 ft.; breadth of transept, 54 ft.; of nave, 46 ft.; height of dome above the floor of nave, 85 ft.; and above the vestry floor, 92 ft. The plan shows seats for 344, with a good deal of free space. The architect is Mr. T. G. Jackson, R.A., and the work is being carried out under his direction, without a contractor, by Mr. Evans, his clerk of works. The chapel will be heated with hot air by Messrs. Haden, of Trowbridge.—*Bradford Observer.*

HOMES FOR AGED POOR, SHEFFIELD.—The Homes for the Aged Poor, erected by the Sheffield Guardians in connexion with the scheme for the classification of paupers, were opened on the 7th inst. by the Lord Mayor. The building fronts to Smilter-lane. At present only eight of the "homes" have been built, with room for extension to 24. In the centre is the administration block, and on each side tnere are four domiciles. They are for married couples, and vary somewhat in design from those intended to be built for either two single men or two single women. At present, they are married people's quarters. Baths are provided, and among other arrangements for the comfort of the inmates there is a large club-room, in which they can all meet together. The ground has been laid out with a walk and terrace in front of the row, and flower beds and grass plots, with seats. The central block includes bedrooms and stores-room for administrative purposes. All the apartments to be used by the aged couples are now on the ground floor, and there is also provided a long ambulatory for walking exercise in wet weather. Mr. George Carr was the contractor for the buildings; Mr. S. H. Uttley fitted the baths and did all the plumbing; Mr. C. J. Innocent is the architect.

CO-OPERATIVE STORE, SCOTSWOOD, NEAR NEWCASTLE.—The Blaydon Co-operative Society recently opened a new store at Scotswood. The buildings comprise business premises, reading and recreation rooms, and lecture hall, and have been designed by Mr. Glover, of Newcastle, and built by Messrs. Mason, Dawson, & Bolam, of Blaydon, at a cost of about 4,000*l.*

BUSINESS PREMISES, THE HAYES, CARDIFF.—New premises for Messrs. David Rees & Co., Ltd., have been erected on the site of the old Hayes market. The architects of the building were Messrs. Jones, Richards, & Budgen, and the contractors and fitters were Messrs. W. Thomas & Co.

TECHNICAL SCHOOLS, LLANBERIS.—The estimate of Messrs. Thorp & Son, contractors, Llandudno, amounting to 2,700*l.*, has been accepted for the erection of new technical schools, the plans being prepared by Mr. R. G. Thomas, architect, &c., Menai Bridge.

GOLF HOUSE, BATHGATE, LINLITHGOW.—The new golf house erected by the Bathgate Golf Club was opened recently. The building was designed by Mr. J. Russell, architect, Bathgate, and was carried out under his superintendence. The contractors for the various branches of the work were as follows :—Mason work, Wm. Roberts & Sons; joiner work, John Hamilton; plaster work, James Easton; plumber work, John Marr; painting work, Peter Stewart.

ADDITIONS, &C., BERWICK INFIRMARY.—Various works of improvement have been carried out at this building, from plans prepared by Mr. J. L. Miller, architect, Hide Hill. The contractors were :—Mason, Mr. J. Russell, Berwick; plasterer, Messrs. James Turner & Sons, Horncliffe; joiner, Mr. John Ord, Berwick; plumber, Mr. George Macadam, Berwick; and heating, Messrs. Emley & Sons, Limited, Newcastle.

CATHEDRAL, LOUGHREA.—The foundation stone of the new cathedral at Loughrea, Ireland, was laid on the 10th inst. The architect of the new building is Mr. Byrne, of Dublin.

BIBLE CHRISTIAN CHURCH, BRIGHTON.—On the 7th inst. the foundation stones were laid of a new church for the Bible Christians of Brighton. The building is situated in Stanford-avenue. Mr. E. J. Hamilton is the architect. The church will consist of a central nave with two transepts and an apse for the accommodation of the organ and choir. It will seat 400. Below will be the main schoolroom, and a large class-room for infants, and five other class-rooms, four of which are to be divided from the schoolroom by swivel partitions. There will also be minister's and stewards' vestries. It is proposed to light the building by electricity. The entire outlay will be about 5,000*l.*

CHAPEL, LEWES GRAMMAR SCHOOL.—The Lord Bishop of the Diocese (Dr. Wilberforce) dedicated recently a new chapel which has been built at the Lewes Grammar School. The chapel is constructed on brick piers, and is of corrugated iron outside. The building has been designed by Messrs. Powell & Co.

METHODIST CHURCH, ST. ALBANS.—The foundation stones of a new Methodist Church have just been laid in the Marlborough-road, St. Albans. Mr. J. Gunton (Messrs. Gordon, Lowther, & Gunton, London) is the architect, and Mr. Dunham is the builder.

ALTERATIONS, EAST FREE CHURCH, PETERHEAD.—Alterations to this church have just been completed, the architects engaged in the work being Messrs. D. & J. R. M'Millan, Aberdeen. The contractors were: Mason work, W. Hadden; joiner work, J. B. Dickie; slater work, W. Simpson; plumber work, John Ferguson; painting and decorative work, George Cran—all of Peterhead; glazier work, Edward Copland, Aberdeen.

RESTORATION OF NEWBURN CHURCH, NORTHUMBERLAND.—The restoration and renovation of this building has been carried out during the summer, and the work has just been completed. The carved woodwork in the interior was executed by Mr. Ralph Hedley, Newcastle, the marble by Messrs. Beall, of the same city, and the carved stone figures by Messrs. Milburn, of York, the marble floors by Messrs. Emley, Newcastle, and the paintings by Messrs. Bacon Bros., of London, while the whole of the artistic work has been supervised and directed by Messrs. Hicks & Charlewood, Newcastle.

CHURCH, STECHFORD, WORCESTER.—The foundation stone of the new church of All Saints, Stechford, was laid on the 4th inst. by the Viscountess Newport. The new church will take the place of an iron building. The church will consist of a nave, north and south aisles, baptistry, chancel, chancel aisle, and vestry. The nave, including the baptistry, will be 87 ft. long and 20 ft. 2 in. wide, the aisles 10 ft. wide, and the chancel 30 ft. by 19 ft. The total length of the church will be 117 ft. 3 in., and the width across the body of the church 44 ft. 8 in. The church when completed will accommodate 504 adults. The eastern portion of the church and three bays of the nave are to be erected first. The west end, with tower and spire, will be erected as soon as funds will permit. The exterior will be of brick with terra-cotta dressings, the interior of brick with Bath stone dressings. Messrs. Collins & Godfrey, of Tewkesbury, are the contractors, and Mr. J. A. Chatwin, of Birmingham, is the architect.

PRESBYTERIAN CHURCH, BELFAST.—The memorial stones in connexion with Donegall-road Presbyterian Church, Belfast, were laid on the 2nd inst. The frontage occupies about 140 ft., and the building will seat about 600 on the ground floor and 440 in the galleries. At the rear of the church will be found session and minister's rooms and a heating chamber, which will form a part of an extensive suite of buildings to be erected afterwards. Mr. Robert Corry is the contractor for the works. The architects are Messrs. Young & Mackenzie.

LIBERAL CLUB, HALIFAX.—The new premises erected by the Claremont Liberal Club, Halifax, were opened on the 2nd inst. The designs were prepared by Mr. J. F. Walsh, architect, Halifax. Northowram stone, pitch faced, has been used throughout. In the basement there is cellaring, with boiler for the heating apparatus, and from here a lift is provided, which extends to the rooms above. On the first floor is the assembly room capable of accommodating from three to four hundred persons. There is also a billiard-room on the same floor. There are also reading-rooms and card-rooms. On the walls in the passages and staircases is a rather deep dado formed by the insertion of glazed bricks in buff, brown, and blue. The contractors to whom the work has been intrusted are: Masons, Messrs. Ephraim Balmforth & Sons; joiners, Messrs. W. Ratcliffe & Sons; plasterers and slaters, Messrs. Bancroft & Sons; plumbers and heating apparatus, Messrs. J. Naylor & Sons; wood block flooring, concreting, and mosaic work, Messrs. G. Greenwood & Sons; painting and decorating, Messrs. Hinchcliffe & Hainsworth; and ironwork, Mr. Mackrell, Elland.

NEW TECHNICAL SCHOOL, HANDSWORTH.—The new technical school at Handsworth has just been opened by Mr. J. H. Pearson, Chairman of the Technical Instruction Committee. The site of the new building has a frontage of 120 ft. to Gold's Hill-road, and of 200 ft. to Stafford-road. The builder's contract amounts to 10,147*l.* The designs for the school have been prepared by Mr. William Henman, and the external architecture is an adaptation of Renaissance, carried out in brick, with stone facings. On the east side of the entrance hall the following accommodation is provided :—General office, library, and committee room, two large class-rooms (one of which is specially fitted up for machine drawing) and the science principal's room. On the west side are two smaller class-rooms for science teaching, the chemical laboratory, balance and preparation room, and a science lecture room and male teachers' cloak-room, &c. Ascending the principal staircase, the upper hall is gained. At the end of the east corridor is the art principal's room, and a room for design on the south and one for life on the north. Next to the latter are three rooms for antique and elementary drawing. At the end of the west corridor are the modelling and casting rooms and art lecture room. Centrally placed is the women teachers' retiring and cloak-room. Right and left of the main staircase doors lead out on to asphalted flat roofs, where outdoor sketching may be practised. There is access to each floor from the caretaker's staircase, with a lift suited for taking large casts, and there are lavatories at each end of the corridor. The rooms will be electrically lighted, the District Council having arranged for an installation which will supply both the school and their own offices. The ventilating and heating of the buildings were undertaken by Mr. W. Key, of Glasgow. The contract for the buildings was placed in the hands of Messrs. Horton, of Brierley Hill. Mr. E. W. Adkins has acted as clerk of the works. Messrs. A. R. Dean supplied the furniture and fittings for the art section, and the Midland Educational Company those for the science department. The electric light installation has been carried out by Messrs. Verity, from the specifications of Mr. J. C. Vaudrey, the power being furnished by two of Tangye's gas-engines.

HOME FOR CHILDREN, GOSFORTH, NORTHUMBERLAND.—The new Home for Destitute Crippled Children, which has been erected in Salter's-road, Gosforth, was opened on the 30th ult. by Mrs. Hilton Philipson. The new Home has been erected on a site two acres in extent. The buildings will afford accommodation for 110 children (73 boys and 37 girls), and the necessary staff of officials and servants. On the right of the entrance are the master's and matron's sitting-rooms, girls' play-room, work-room or class-room, and beyond a school-room. To the left is the committee-room, reading-room, and library, and boys' play-room. These rooms face south, overlooking the play-grounds, and are connected by a main corridor, 6 ft. wide and 123 ft. long. There is a similar corridor over, and both have fireproof floors. The first floor of the main building over the rooms before enumerated contains two dormitories for twenty-seven beds each, and four for ten beds each; master's, matron's, and nurses' bedrooms, and linen store. Behind the main corridor on the ground floor are lavatories and cloak-rooms for boys and girls, dispensary, and matron's stores, and the boys' and girls' staircases; and on the first floor four bath-rooms, supplied with hot and cold water. In the centre, and behind the main buildings, is the dining hall and kitchen block (with dormitory on first floor for thirty-six beds), scullery, bakehouse, larders, servants' hall, and tradesmen's entrance, and along the north front on the one side is the laundry, and on the other workshops and store-rooms, approached by covered ways through the cloak-rooms opening out of the main corridor. Each of the three large dormitories has attached thereto an annex for sanitary offices, disconnected by cross-ventilated lobby, and a fire-escape staircase leading to the open courtyards. The contract for the erection of the new buildings was entrusted to Mr. S. B. Burton. Messrs. Barford & Perkins, of Peterborough, supplied the cooking and laundry work. The work has been carried out under the superintendence of Mr. Edward Shewbrooks, architect, of Newcastle. Mr. Codling was clerk of works.

PRUDENTIAL ASSURANCE COMPANY'S OFFICES, DUNDEE.—The block of buildings which has been erected in Albert-square, Dundee, by the Prudential Assurance Co., Limited, is now all but completed. The building is four stories in height, with sunk and mezzanine floors. The material used in its construction is red Dumfriesshire stone mixed with terra-cotta bricks, while Peterhead granite has been employed. The contractors for the work were as follows :—Builders, D. & A. Powrie; joiners, John F. Shaw & Son; plumbers, William Mitchell & Son; plasterer, James Laburn; slaters, Ramsay & Reid; painters, P. & A. Davie; electric light installation, bells, telephone, and window blinds, J. Pullar & Co.; faïence work, Burmantofts & Co., Ltd., Leeds; mosaic work, Ebner & Co., London. Mr. T. M. Ponton was the clerk of works. Messrs. A. Waterhouse & Son were the architects.

POST OFFICE, BEXHILL-ON-SEA.—A new General Post Office has just been opened at Bexhill. The builder was Mr. H. Noakes, of Eastbourne, and Mr. G. H. Gray was the architect.

RESTORATION OF ST. PAUL'S CHURCH, SHEPLEY, YORKSHIRE.—St. Paul's Church, Shepley, which has been closed for some time for restoration, and in order that the chancel might be enlarged, was re-opened recently. The enlargement of the chancel has been effected by extending westwardly into the nave beyond the existing chancel arch, and to emphasise the division of the nave from the chancel an oak screen has been erected. The spaces on the north and south sides of the part extended are fitted with oak benches set apart for the lady members of the choir. The floor of the chancel is of marble mosaic. In the nave the whole of the old-fashioned pews have been removed, new benches of solid oak taking their place. A new staircase and approach has been made to the end gallery. The main entrance to the church is now shielded by a new vestibule of oak, the upper portion of which is filled in with stained glass. Tiled pavements are laid down in spaces formerly flagged. The works have been completed from the designs and under the superintendence of Mr. W. Cooper, architect, Huddersfield, by the undermentioned contractors :—Mason, Mr. Harris Wood; joiners, Messrs. T. and J. Hawley; plumber, Mr. G. Lindley; slater, Mr. W. E. Jowitt; plasterer, Mr. A. Jessop; mosaics, Messrs. Patterson; tiling, Messrs. Shaw; decorating, Messrs. Lunn & Cardno; heating, Mr. J. W. Thornton.

METHODIST CHAPEL, ILFRACOMBE.—The memorial stones of a new Methodist chapel have just been laid at Ilfracombe. Mr. W. H. Gould, Ilfracombe, is the architect, and Messrs. Britton & Pickett, Ilfracombe, are the builders. The chapel is to be built in the Gothic style, with Torquay stone, and the windows and quoins with Bath stone. On the ground floor, on a level with the road, will be six schoolrooms, opening out by sliding partitions. In addition to this there will be a church parlour, to be used for Bible-classes, and two or three

vestries. The church will be entered by two doors from Market-street and from the new approach on the west side. The building will be cruciform in shape, the organ-chamber being at one corner and the minister's vestry at the other. An end gallery is to be erected, while a tower will be built, surmounted by a spire, rising to a height of about 130 ft. The building will seat 650. The estimated cost is 5,000*l.*

CHURCH, PAIGNTON.—On the 5th inst. the new Church of St. Andrew's was consecrated at Paignton. The church has been built by stages as the growth of the parish demanded, A portion of it has been used for several years past. The building is French Gothic in design, and it will now accommodate about 400 persons; but arrangements have been made for extending it at the west end when the number of worshippers demand it. The shafts supporting the arcades that divide nave and aisle are of Purbeck marble, and the clearstory windows have also pillars of the same material. The floors of the nave and aisles are of wood blocks, with red tiles in all the avenues and approaches. The chancel floor is of mosaic, and that of the sanctuary polished Devonshire marble. The roofs of the chancel and chapel are of oak, and that of the tower has groined stone vaulting. The stalls are of carved oak. The new marble pulpit is of Byzantine character. The body of the rostrum is supported by a group of polished marble columns, and the cants are of inlaid marbles. At each angle are canopied niches in marble, having golden tesseræ inlaid backgrounds. These niches contain sculptured statuettes in white Castellino marble representing respectively St. Augustine, first Archbishop of Canterbury; St. Boniface, once of Crediton, but afterwards the Apostle of Germany; Bishop Lacey of Exeter; St. Columca, the Apostle of the Northern Picts; and last, Frederick Temple, the present Archbishop of Canterbury. In the panel immediately beneath the preacher's desk is a carved representation of the crucified Christ, also in white marble. The pulpit is the work of Messrs. Harry Hems & Sons, Exeter. The old font which was recently placed in the parish church of Paignton, has been restored and placed in the church. The carving of the choir stalls was done under the supervision of Mr. Tann, by the following pupils of the Art Schools:—Miss Jervis Cooke, Mrs. Richmond, Miss Schoefield, Miss E. Moseley, Miss Pritchard, Messrs. W. Binmore, P. Horsham, Perrett, Wyatt. Sherwill, Battershall, and Lapthorne. The architects are Messrs. Tait & Harvey, Exeter. The first portion of the church was built by Mr. E. P. Bovey, of Torquay, and the final part by Messrs. Stephens & Son, contractors, of Exeter. During the greater part of the work Mr. Jamet Baker was the contractor's foreman, and Mr. C. Nobie the clerk of works.

REOPENING OF LONGDON CHURCH, WORCESTERSHIRE.—This building has been repaired and renovated by Messrs. Collins & Godfrey, under the direction of Messrs. Prothero & Phillott, architects, of Cheltenham.

WESLEYAN CHAPEL, CHURCH GRESLEY.—On the 6th inst. the stone-laying ceremony in connexion with the new Wesleyan Chapel at Church Gresley took place. The new chapel is to be 47 ft. long by 40 ft. wide, and is intended to be extended another 40 ft. There will be galleries round the end and sides, and the building will be heated by hot-water. The contract for the work (amounting to 1,475*l.*) has been let to Mr. Chas. Venning, of Swadlincote, and Mr. Earp, of Newhall is doing the brickwork, and Mr. Geo. Mason, of Swanlincote, the plumbers' work. The building has been designed by and will be erected under the supervision of Mr. Robert C. Clarke, architect, of Nottingham.

PLYMOUTH COUNCIL CHAMBER IMPROVEMENTS.—Colonel A. G. Durnford, R.E., Local Government Board Inspector, held an inquiry at Plymouth Guildhall, on the 6th inst., respecting the application of the Corporation for powers to borrow 1,600*l.* for alterations and improvements to the Municipal Buildings. The improvements had been tendered for and accepted at 1,465*l.* Mr. Hine (Messrs. Hine & Odgers, architects) showed plans of the suggested alterations, and described the proposed renovations to the Chamber. The Mayor (Mr. C. H. Radford) having supported the application, the inquiry closed.

PROPOSED MODEL DWELLINGS, BRADFORD.—At a meeting of a sub-committee of the Bradford Sanitary Committee, held on the 7th inst., it was decided to instruct the City Surveyor (Mr. J. H. Cox) to prepare sketch plans of blocks of model dwellings.

WESLEYAN CHAPEL, CARDIFF.—The foundation-stone of a new Wesleyan Chapel was laid recently on a site acquired off the Albany-road, Cardiff. The main elevation will be towards Albany-road, with entrances from Bangor-street. The nave, which will be the width of the site, has a length of 78 ft. by 28 ft., with side aisles 10 ft. wide on each side. The transepts will be 28 ft. wide on each side, with aisles the same width as the nave. The only galleries will be over the transepts, with seats for about 140. The accommodation in the body of the chapel will be for about 710, with further accommodation for about 35 in the choir. For the present the tower will not be erected. In addition to the chapel proper, the following further accommodation is provided:—Organ chamber, two vestries on the ground floor, and a large parlour; on the first floor another parlour, and a smaller class-room. Kitchen and scullery accommodation is provided. The contractors for the building are Messrs. E. Turner & Sons, the architects being Messrs. J. P. Jones, Richards, & Budgen.

THE CAIRD HOSPITAL FOR WOMEN IN DUNDEE.—At a meeting of the directors of Dundee Royal Infirmary on the 7th inst., the plans of the proposed hospital for women, which Mr. J. K. Caird, manufacturer, offered to erect, were approved. The plans were prepared by Mr. Murray Robertson, architect, and the cost was estimated at about 6,000*l.* The central block will be used for administrative purposes and for the residence of the staff. One of the other blocks will be used as a maternity hospital, and the other for the treatment of diseases, there being altogether thirty beds for the accommodation of patients.

METHODIST CHURCH, GOOSE GREEN, LANCASHIRE.—The memorial stones have just been laid of a Free Methodist Church at Goose Green. The new buildings are erected on the old site in Northumberland-street. The chapel will seat 270, and with the addition of the class-rooms 330. The front of the chapel is faced with Ruabon bricks and terra cotta, with Cefn stone dressings, the sides of the same and the front of the class-rooms with local pressed bricks, and the base course with blue Staffordshire bricks. The work is being executed by Mr. Alfred Bywater, of Pemberton, from plans by and under the supervision of Mr. R. Pennington, architect, Wigan.

GOLF CLUB HOUSE, WAKEFIELD.—On the 9th inst. the new club-house, which has been erected at Heath-common, was formally opened. The building has been built by Messrs. Lathom & Bell to the plans of Mr. A. H. Newbold.

SANITARY AND ENGINEERING NEWS.

THE WEST RIDING SEWERAGE SCHEME: PURIFICATION OF THE CALDER.—The Mayor and Corporation of Brighouse made their annual inspection recently of the work the Corporation have in hand for intercepting the sewage of the Borough and surrounding districts, and for clarifying the sewage so as to prevent the same polluting the river Calder. About twenty members of the Council, along with the Engineer for the scheme, Mr. Alfred M. Fowler, of Manchester and Westminster, and the contractor, Mr. George Taylor, journeyed on foot along the line of the part already built for about a mile and a half. The work is composed of a brick sewer varying from 5 ft. to 5 ft. 6 in. diameter, and varying in depth from 9 ft. to 43 ft. 6 in. below the surface. The party afterwards examined the land in course of formation for finally treating the sewage. The system intended to be applied is to treat the sewage with lime and sulphate of alumina in tanks, the effluent from which will flow on to and through the land (forty acres having been acquired for this purpose). The main drainage, when completed, will form upwards of seven miles of main sewers, and will extend over a populated area of upwards of fourteen square miles. The total cost of the work will be about 110,000*l.*, including the land purchase.

PROPOSED SEWAGE WORKS, ROTHERHAM.—Mr. George W. Willcocks, M. Inst. C.E., the inspector appointed for the purpose by the Local Government Board, held a public inquiry on the 29th ult., in the Borough Courts, Rotherham, relative to an application by the Town Council of Rotherham to borrow 55,269*l.* for sewerage and sewage disposal. There were present amongst others, Mr. R. E. W. Berrington (engineer, Wolverhampton), Mr. Holmes (West Riding Sanitary Inspector), Mr. B. Godfrey (Surveyor to Rotherham Rural District Council), Mr. H. H. Hickmott (Town Clerk), and Mr. G. Jennings (Borough Surveyor). The Town Clerk said the population of the borough was computed now to be over 50,000.—Mr. R. E. W. Berrington, the engineer, gave evidence explaining the scheme, from which it appeared that the sewage would be picked up at four points, and conveyed to the land at Aldwarke for treatment. All storm water was intended to be excluded as far as possible, but at present this question did not come in. At the outfall works the sewage would pass by gravitation into two or three tanks of an average depth of 5 ft. 8 in. The effluent would flow to the filters, the filtering medium being coal, varying in size from one quarter to three quarters of an inch. If the coal became useless it would afterwards be burnt. The effluent would subsequently be treated by downward intermittent filtration. The sludge would pass to a tank, and would be pressed into sewage cakes. It was not anticipated there would be any difficulty in disposing of this refuse. In reply to Dr. Wilson, Mr. Berrington said they had taken the daily flow to be dealt with at 30 gallons per head of the population, which would mean 1,500,000 gallons. Blackburn, Thorpe Hesley, and Templebro' were not included in the scheme, and there was also no proposal with regard to any portion of the rural district. The Borough Surveyor was also examined as to the existing drainage system.

WATER SUPPLY, NEWPORT, MONMOUTHSHIRE.—A special meeting of the Newport County Council was held at the Town Hall recently to consider the whole question of the Wentwood water undertaking, at which failures have from time to time occurred during construction. The chief defect now reported upon by the Waterworks Committee (after examinations by two experts—viz., Mr. Baldwin Latham and Mr. D. B. Butler) was with reference to faulty concrete filled into the puddle trench. The Committee regarded their Chief Engineer (Mr. Conyers Kirby) primarily responsible for the defective work, and the Resident Engineer (Mr. Curry) "largely to blame for the present condition of affairs with respect to the trench, in that he did not report to the Committee direct the serious doubts which it appeared he had entertained for some little time previously as to the manner in which the work of making the concrete and filling it into the trench was being proceeded with." Both these engineers have resigned. The Committee in their report as to future operations remarked:—"With regard to the future, your Committee propose to ask Mr. Baldwin Latham, now that the excavation in accordance with his recommendation of facing the existing concrete with an inner wall of concrete 4 ft. in thickness has been carried out sufficiently to show a section of the concrete exposed and enable its composition to be examined, to come down and again examine with a view to further considering whether this is the only remedy, and whether the great expense and delay which it necessitates cannot be reduced by some other method being adopted. In the meantime the preparations for the course recommended by Mr. Latham will be proceeded with, so that all unnecessary delay may be avoided." The voluminous report of Mr. Baldwin Latham was read by the Town Clerk. In this the consulting engineer gave many details as to the leakages which had taken place. Some question had been raised in the district, he said, as to whether the quality of the water did not act injuriously upon the concrete. He appended an analysis of the water as made by the late Dr. Tivy, of Bristol. The water was much the same as that which is now supplied to Newport. It was a little softer, and contained a little less solid matter. The concrete was not injured by being submerged in this water, but it was injuriously affected by being overwatered in mixing. He generally attributed the faulty work to inattention to details, and to the trench being filled in in too great a hurry. The reply of Mr. Conyers Kirby to the reports of Mr. Baldwin Latham and Mr. D. B. Butler was also read, as well as a report from Mr. Curry. A long report was also read from the manager, Mr. Macdonald, who said there was no foundation for Mr. Baldwin Latham's statement that the concrete was disgracefully made. Alderman C. Lyne, as Chairman of the Waterworks Committee, moved the adoption of the Committee's report. The outlay up to date at Wentwood was 100,408*l.* The adoption of the report having been seconded, Mr. W. H. Brown moved as an amendment to the Committee's report a recommendation to pay Mr. Kirby such sum, together with the 3,500*l.* already paid, as represented 4 per cent. on the outlay, after deducting the cost of lands, the purchase of plant, and the sum paid to Mr. Young, the former contractor, to give up his contract. Mr. Wilkinson seconded the amendment, and thought the failure of the works so far had been largely the fault of the Water Committee itself. After considerable discussion a vote was taken, and the amendment was defeated by 17 votes to 16. The report was ultimately adopted.—*Western Mail.*

PROPOSED DRAINAGE OF WILSDEN, CULLINGWORTH, AND HARDEN, YORKSHIRE.—Mr. George Waller Willcocks, M.Inst.C.E., Inspector for the Local Government Board, continued his inquiry at Bingley on the 1st inst., into the appeal made by the Wilsden District Council and certain of the electors in the Harden Ward of the Bingley Outer District against the inclusion of the districts of Wilsden and Bingley Outer within Bingley. The day was occupied with hearing evidence on behalf of the appellants. The principal point brought out in the evidence was the proposal of Mr. E. W. Ives, C.E., of Derby, for the drainage of the villages of Wilsden, Cullingworth, and Harden, according to the Ives patent system, known as the Universal. He advocated the establishment of separate works for each of the villages, and put in the estimate of the costs as follows:—Wilsden, 2,117*l.*; Cullingworth, 1,818*l.*; and Harden, 978*l.* 15*s.* He claimed that separate schemes would be less costly than a combined one, and urged that they would prove efficient.

WATER SCHEME, BEDWORTH.—Mr. W. H. B. Nichols, C.E., of Birmingham, has prepared a scheme for waterworks at Bedworth, and this has been accepted by the Local Government Board. The total cost of the works is estimated at 9,640*l.*

WATER SUPPLY, KIRKCALDY.—Mr. Sang, C.E., has now completed the plans for the extension of the Kirkcaldy water supply. The new works are roughly estimated to cost about 100,000*l.*

SEWERAGE SCHEME, KIRKBY-IN-ASHFIELD.—On behalf of the Local Government Board Colonel W. L. Coke, M.Inst. C.E., conducted an inquiry at the Board Schools, East Kirkby, recently, relative to the application of the Urban District Council to borrow 7,895*l* for a sewerage scheme. Messrs. Walker (Sanitary Engineer), Dr. Mackenzie (Medical Officer), and others were in attendance.

STREET IMPROVEMENT, WEYMOUTH.—Mr. Frederick H. Tullock, an inspector of the Local Government Board, recently held an inquiry at the Guildhall in consequence of the Town Council

having applied to that authority for sanction to borrow 2,800*l.* for works of street improvement in the borough. The Borough Surveyor is Mr. W. B. Morgan.

ELECTRIC LIGHTING NEWS.

ELECTRICAL FAN FOR HOT CLIMATES. — The October monthly sheet of the General Electric Company contains an illustration of "a silent slow-speed ceiling fan motor" for driving round a horizontal two-bladed fan to be fixed near the ceiling of a room, with a self-contained direct current motor. This may prove a useful substitute for the hand-worked punkah in Indian houses.

MANUAL OF ELECTRICAL UNDERTAKINGS. — The Manual for 1897, the second year of issue (London: P. S. King & Son), is compiled under the direction of M. Emile Garcke, and contains full statements of the work and expenses of the electrical industries of the United Kingdom, with maps of the electricity supply areas within the county of London. The information is classified under the heads of Telegraph, Telephone, Electricity Supply, Electric Traction, Electrical Manufacturing, Miscellaneous Undertakings.

WATER-TIGHT ELECTRIC BELLS.—Messrs. Mercier (Manchester) send an illustration and description of their water-tight electric bell, which it is claimed is not only dust-proof and damp-proof, but will ring when submerged in water.

ELECTRIC LIGHTING, HAMMERSMITH.—On the 30th ult. the ceremony of inaugurating the installation of the electric light in Hammersmith by the Vestry took place at the Town Hall, when Dr. Collins, Chairman of the London County Council, opened an electrical exhibition, and the current for the arc lamps erected for lighting the streets was turned on by Mr. W. J. Searle, Chairman of the Electric Lighting Committee. According to the *West London Observer*, instructions having been given to Mr. A. H. Preece, electrical engineer, of Victoria-street, S.W., to prepare a report upon the thirteen tenders which were sent in in 1895, he reported in favour of the alternating current transformer system, and that the tenders of Messrs. Siemens & Messrs. Ferranti were the lowest respectively for high and low speed plants, but that for several reasons it would be better to invite both firms to submit revised tenders. Messrs. Ferranti's tender was subsequently accepted, and Mr. Preece was appointed consulting engineer to prepare the necessary plans for the completion of the installation, and to superintend the carrying out of the same. In the meantime the Surveyor, Mr. H. Mair, had been instructed to prepare plans and specifications for the necessary buildings and chimney shaft; he had also been instructed to have the site excavated and the sand removed preparatory to the concrete foundations for the buildings and plant being put down, this work being carried out by men directly in the employ of the Vestry. The plans were submitted to the Vestry, and Messrs. Leslie & Co., of Kensington, were accepted. This portion of the work is now complete. The front block consists of engineer's and clerk's offices, with store-clerk's office, and a number of rooms that can be used for storing lamps, &c.; there are also workshops on the same level as the engine and boiler-houses for the execution of small repairs to the plant. The engine-house is 65 ft. long, 26 ft. wide, and 24 ft. high to the springing of the roof, and is faced on the inside with white glazed bricks, having a dado 5 ft. 9 in. in height of salt-glazed bricks all the way round, except the northern end, which has been temporarily framed and lined with match boarding, so that when the building is extended the engine-room will be in one open length under one roof. The boiler-house is 60 ft. 6 in. by 44 ft. by 26 ft. 6 in., and has a similar dado in salt-glazed bricks carried round. The chimney is built octagonal in shape, 8 ft. internal diameter, and large enough to take another set of four boilers. The engine-house plant consists of three main engines and dynamos, one small engine and dynamo for working during the day-time, the arc-lighting apparatus, and the switch-board. The three main engines and dynamos are of Messrs. Ferranti's special design. Each set is capable of lighting about 4,000 8-candle power lamps at one time. The engines, made for Messrs. Ferranti by Messrs. McLaren, of Leeds, are vertical compound. There are in all four dynamos: three of 125kwt., and one of 25kwt. capacity. The larger machines are of the Ferranti disc type, in which the armature coils are carried by holders securely bolted to and insulated from the fly-wheel. The day load set is capable of lighting 750 eight-candle power lamps at one time. The engine has been made by Messrs. Belliss. It is their patent closed-in high-speed type, provided with forced lubrication. The speed of the plant is 450 revolutions per minute. The arc lighting apparatus consists of three of Messrs. Ferranti's patent rectifiers, which change the alternating current produced by the main dynamo into a continuous current. Each rectifier is designed to light 50-12 ampere arc lamps. At present quite 100 lamps are installed, so that one rectifier is used as spare. The rectifiers are driven by alternating current motors, and the current required by the arc lamps is kept constant by means of a special automatic regulating transformer. The current generated in the works is conducted to the various portions of the parish included in the Provisional Order as the compulsory area by means of concentric cables laid throughout in cast-iron pipes. The whole of the contract for trenching, supplying, and laying pipes, providing cables, &c., has been carried out by Messrs. Callender. The high-pressure cables, which are concentric and protected by lead sheathing, are of Messrs. Callender's patent jute impregnated type. The high-pressure cables are connected to certain districts where sub-stations are placed, and in these sub-stations the high-pressure is transformed, and the low-pressure current produced is conducted by a network of low-pressure mains along the various streets in the district. There are altogether four main circuits. These main circuits are interconnected, so that the failure of any one circuit will not interfere with the supply to the particular district. Branch circuits are provided at the distributing points to feed the ends of the various districts. Beside these circuits, spare pipes are provided to the principal points, so that future circuits may be easily added. The low-pressure cables are laid on both sides of all the streets included in the compulsory area, except Shepherd's Bush-road. The arc lighting cables are laid in a separate system of pipes throughout the area served, and, in order to provide for the eighty-five lamps at present fixed, it has been necessary to lay two circuits. They are laid on opposite sides of the streets. There are at present six sub-stations provided for transforming the high-pressure current to the low-pressure current. The street lighting at present is by arc lamps. The arc lamps, posts, &c., for whom Messrs. Siemens were the contractors, are placed between 70 and 110 yards apart along the streets comprising the compulsory area. The posts are of ornamental character, those placed in the centre of the streets having the lamps placed in central carriers, and those at the side of the streets having projecting brackets. The arc lamps are of the Brockie-Pell type, made by Messrs. Johnson & Phillips, each giving about 1,200 candle-power, and fixed 20 ft. above the ground. On each post there are two glow lamps of 32 candle-power each, placed about 14 ft. above the ground, and connected to the low-pressure mains. An automatic switch of Mr. Edmunds' patent design is placed in each of the posts, and it is arranged that if, by design or accident, any of the arc lamps go out, the glow lamps are automatically lighted by means of this switch. All private consumers will be connected to the low pressure mains by means of a joint box. The vestry will lay a short connecting cable into each house. Two scales of charging have been adopted, both of which are based on the maximum demand system. The scales adopted in Hammersmith are:—(a) 6d. per unit for two hours' maximum demand, and 4d. per unit for all units in excess; (b) 2½d. per unit, and in addition a fixed charged of 1s. 3d. per quarter per lamp demanded. The buildings have been designed and superintended by the Surveyor to the Vestry, with Mr. Randall as clerk of works. Mr. Bell has acted as Resident Engineer, and now takes charge of the running of the station. Mr. T. H. Whiteford represented Messrs. Ferranti; Mr. Proctor represented Messrs. Callender; Mr. Collings represented Messrs. Siemens. The total cost of the scheme has been about 40,000*l.*

ELECTRICITY WORKS, BRADFORD. — The new municipal electric lighting and power works at Bradford were opened on the 8th inst. by the Mayor (Mr. T. Speight). Among those present were Mr. A. H. Gibbings (City Electrical Engineer), and Mr. J. H. Cox (City Surveyor). The works are situated at the corner of Valley-road and Lionel-street, and are built of local stone in the Renaissance style, the total cost, with equipment and extensions, having been 40,000*l.* Of this, the buildings have absorbed 11,500*l.*, plant 14,800*l.*, and cables 13,700*l.*

FOREIGN.

FRANCE.—A new gallery for casts of antique sculpture will shortly be opened at the Louvre. The ceiling decorations have been modelled by M. Frémiet.——The King of Siam has commissioned M. Jules Patey to make a model for a medal commemorative of his visit to Europe.——M. Pontrémoli, who gained such a success not long since by his "envois de Rome," has been appointed "Inspecteur des bâtiments civils" in connexion with the Louvre and the Tuileries.——The Minister of Commerce inaugurated last Sunday the buildings of the new "Ecole des Hautes Etudes Commerciales," in the Boulevard Malesherbes; and on the same day the first stone of the new Mairie at Asnières was laid. The architect is M. Emanuel Garnier, who gained the commission as the result of a competition.——A canal is to be made between the Marne and the Seine, from Neuilly-Plaisance to Epinay-sur-Seine.——A competition has been opened for a group of schools at Fécamp.——An important fragment of the ancient Roman wall of the city has been discovered at Toulouse.——M. Jas. Tissot is to paint a figure of Christ as a decoration for the Chapel of the Dominicans in the Rue du Faubourg St. Honoré. The painting, which is on a large scale, will be placed behind the altar.——M. Charles Devergues, architect and former holder of the Prix de Rome, has obtained the first premium in the competition for the erection, at Orléans, of a monument to the soldiers who fell in defence of the city in the war of 1870.——The municipality of Bordeaux has opened a competition for a monumental fountain to be erected in a public square in the city.——M Monfort has been appointed architect to the Department of the Loire Inférieure, in place of M. Etève, resigned.——A new railway line is to be made, in the Department of Haute Vienne, between Bussière-Galant and Saint-Yrieix. The line will require the construction of a tunnel 400 mètres long and a bridge 15 mètres high, in masonry, in a single arch 18 mètres wide.——Work is going on actively at the new pier at Dunkerque, to replace the old jetty, and the canal giving access to the port is being enlarged to a width of 210 mètres.——The materials of the Porte Limbert, which formed part of the old fortifications of Avignon have been sold by auction, the structure having been demolished by the municipality, though classed among "Monuments Historiques." A larger gateway is to be erected in its place, of which the plans are to be prepared by the department of "Monuments Historiques." We fear this looks like the production of a piece of sham-antique.

GERMANY.—There is a great improvement in the design of posters in Germany, mainly due to the several competitions which have been recently opened among artists for advertisements in connexion with exhibitions, public festivities, &c. We may notice, for instance, a recent competition of this description for a poster announcing a "National Fête," for which 50*l.* was offered as a premium, and an influential committee act as assessors.——We regret to record the death of Herr Ernst Wasmuth, the well-known leading architectural publisher at Berlin, who died at the age of fifty-two. Nearly all the more important architectural works produced in Northern Germany were issued by his firm, and he was particularly noted for the large collections of photographs which he published of the modern architecture of foreign countries.——A number of experts in regard to fire prevention consider that the new Building Act of Berlin does not sufficiently cover the modern requirements of safety from fire.——Of the various competitions recently decided, one for an extensive Casino at Gelsenkirchen has been decided in favour of a design by Herr Buchmen, of Hanover. Among new competitions we hear of one for a County Hall at Herford, and for a gymnasium at Hanau. A competition for a new art museum at Riga (Russia), is also advertised among the German competitions. We are under the impression, however, that this is an "International" competition. The sending-in day is in February, 1898, and the designs are invited under the auspices of the Town Councillor of Riga. Premiums to the extent of 1,600 rubels are offered.——Our Berlin contemporaries really seem to at last show greater interest in English work. No. 40 of the present volume of the *Centralblatt der Bauverwaltung* is practically entirely devoted to the doings of our Kingdom. There are two pages about English architectural education, a description of the Tate Gallery, and three pages on "Sewage Treatment in England." This is indeed an improvement on what used to be the case, when, as far as our German contemporaries were concerned, English doings in architecture and surveying were apparently non-existent.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Messrs. Scamell & Colyer, architects, have removed from 18 Great George-street to 14 Victoria-street, Westminster.

WANDSWORTH TECHNICAL INSTITUTE.—We have received the prospectus of this Institute, the course of instruction in which includes practical physics, magnetism and electricity, theoretical mechanics, building construction, plane and solid geometry, geometrical drawing, carpentry and joinery, brick-work, plumbing, &c. The college is in High-street, Wandsworth.

"DICK'S," FLEET-STREET.—We notice that this old coffee-house is closed, and are informed that the premises are to be pulled down. A part of the house was renewed about twenty years ago, but one may yet see the earlier portion of the premises from Hare-court, Temple. Originally "Richard's," the house was let to one Richard Turver, or Torvor, in 1680. It was to "Dick's" that Steele, in the character of Isaac Bickerstaff, conducted the deputation of "twaddlers" from the country who had called on him at his rooms in Shire-lane, and there Cowper read a letter, in a newspaper, which he imagined was written in order to impel him to commit suicide.

GAIETY RESTAURANT, STRAND.—It is stated that Messrs. Spiers & Pond have agreed to sell their interest in the lease of the restaurant and the Gaiety Theatre refreshment bars. The Gaiety was opened on December 21, 1868, the theatre having been converted, by the late C. J. Phipps, from the Strand Music-hall as designed by the late E. Bassett Keeling, who died in November, 1886. The music-hall took in the site of the arcade—leading out of Wellington-street into Catherine-street—that was named after the original Exeter Exchange in the Strand. Subsequent enlargements for the theatre and restaurant have been made by acquiring premises at the rear and sides of the former site.

A NEW STEP-FACING.—Messrs. Addison Potter & Son (Willington, Northumberland) send us a description of a new material for steps for heavy wear, consisting of concrete with a top facing of

emery concrete. It is stated that this has lasted very well under several years' traffic, and that the street telephone box covers for the Post Office, both in Newcastle and Sunderland, have been faced with this material with good results. The cost is not much beyond that of good stone.

Herne Bay and Neighbourhood.—Millgate's Herne Bay Guide (W. F. Millgate, Herne Bay) contains a great deal of information about objects of interest in the neighbourhood, accompanied by a number of sketches.

Subsidence in the City.—Considerable excitement was caused on the 8th inst in the neighbourhood of the Mansion House by a rumour that a deep subsidence had taken place which seriously affected the safety of the Mansion House-chambers, and this was intensified when a force of City police appeared and erected a barricade outside those portions of the chambers which abut on Bucklersbury and Queen Victoria-street. It appears that a subsidence did take place, but it was of a very slight character, and did not in the least endanger the safety of the building.

Liskeard Church Tower.—The vicar and churchwardens of Liskeard received the written judgment, on the 5th inst., of the Chancellor of Truro (Mr. R. M. Paul) on their application for a faculty to take down the existing tower of the parish church and erect a new tower in harmony with the church. The petition was heard by the Chancellor and his assessor (Mr. C. E. Ponting) in open Court at Liskeard Guildhall on 23rd ult. In his judgment, which is dated September 29, the Chancellor first recapitulates the progress of the negotiations previous to the Court, and mentions that Mr. Ponting "made a thorough examination of the tower and the foundations, the petitioners having most courteously permitted pits to be sunk on two sides of the tower. It was found that although the rock formation exists at a depth of 10 ft. from the surface, the foundations are only carried down 4½ ft., without any proper projection beyond the face of the wall, and are composed of small rubble stones laid dry, as is so often the case with Norman foundations. The result of this is a serious settlement of these foundations and cracks in the superstructure, and this movement, which probably commenced at a very early period, has now undoubtedly reached a critical stage." The Chancellor goes on to say, however, that he is advised by Mr. Ponting, that, notwithstanding the defects enumerated, the tower and its many points of interest can be restored, that it "can be underpinned and repaired without the addition of buttresses" (as recommended by Mr. Fellowes Prynne), "and put in sounder condition than when first built." Churches in an equally dangerous condition are enumerated, which have been secured under Mr. Ponting's supervision, and so confident is that gentleman of the feasibility of restoring the tower of Liskeard that he has expressed his willingness to gratuitously give to the petitioners written directions as to the methods adopted, and, if required, to send them a builder to carry out the work. In giving his decision at the close, the Chancellor says the court is bound to consider future as well as present parishioners, and "it is, moreover, the duty of the court to discourage, so far as possible, the demolition of all such ancient and interesting ecclesiastical buildings as are within the limits of its jurisdiction; and in a diocese where Norman work is comparatively rare, no effort should be spared to preserve every link that connects the present age with the far distant past." Mr. Paul, therefore, rejects the prayer of the petition so far as it involves the demolition of the existing tower and the erection of the proposed new tower, but, if the tower be restored, a vestry-room may be erected on the south side, in accordance with Mr. Sansom's plan. And if it will meet the wishes of the petitioners, the Chancellor adds that he would be prepared to sanction the necessary work recommended by Mr. Ponting for the preservation of the existing tower, and the erection of the proposed new tower (with such modifications as the altered circumstances render necessary) at the N.E. or S.E. corner of the church.

Sanitary Science in Liverpool.—The inaugural lecture of a series of lectures on sanitary science was given on the 6th inst. in the Arts Theatre, University College, by Dr. Hope, the medical officer of health for Liverpool. The Lord Mayor presided, and in opening the meeting, said he thought in no centre of population had greater advantage accrued from sanitation than in Liverpool, because they must all reflect with great pleasure on the enormous benefits which had arisen and which were evidenced by the decrease in the death rate of the city.—Dr. Hope, in the course of his paper, referred to the objects of the Sanitary Science Instruction Committee, which had been organised by Alderman Houlding and his colleagues, as most laudable and useful. These lectures, which were promoted by this committee, would place within reach of all the means of obtaining a knowledge of the subject. It had also a second aim, to give the necessary training to candidates who were qualifying as sanitary inspectors. Since health was the greatest boon men could enjoy, knowledge of how to obtain it was most important. The lecturer dwelt on the advantages which country had over town dwellers, remarking that the tendency of town life was to degenerate, unless the conditions were very carefully watched. He hardly need emphasise the importance of providing as many parks, gardens, and open spaces as possible, as they were the most valuable adjuncts to health that the city possessed. The Maidstone epidemic emphasised the importance of a pure water supply, which should be entirely in the control of the municipality. The unrestricted supply of water was most essential to the health of a community, and it was not judicious to depend upon a water company subservient to the payment of dividends to the shareholders. Proceeding, he emphasised the necessity of cleanliness in private houses, schools, and laundries, and the efficient flushing of the streets of the town. Amongst other causes of disease they had to combat were ignorance, improvidence, and intemperance, which no laws could remedy—the remedy must be applied by the people themselves. He considered that the progress of the city had amply repaid the large amounts of money expended upon it in works and sanitary improvements, having for their object the promotion of public health.

CAPITAL AND LABOUR.

The Strike of Plasterers in Liverpool.—The strike of plasterers in Liverpool has now lasted for a considerable time, causing a great deal of inconvenience in the building trade. So far as plasterers' work is concerned the building trade in Liverpool is practically at a standstill, and very little progress is being made in completing the public buildings in the course of erection. At the new post-office in Victoria-street, the new fire-station, Hatton-garden, and the new School Board offices there has been very little advancement made towards getting the necessary plasterers' work accomplished, and the completion of the buildings is, therefore, very much delayed. A number of Continental plasterers have been imported to do the work of the men who are out on strike. They are now busy at work, but they have not been imported in such large numbers as to attract attention. Some of the masters are having urgent work done by a few non-society men. —*Liverpool Post.*

The Building Trade Dispute at Liskeard.—The requests of the carpenters and masons of Liskeard have been met by their employers, and in future the men will be paid 6d. per hour, and will leave work at one p.m. on Saturday, but whether the full fifty-four hours per week will still be worked will depend on circumstances. The masters, it is understood, have agreed to give more than the men asked for, and are willing to pay their employés ½d. an hour extra for walking time for distances under three miles, and 1d. an hour over that distance.

LEGAL.

ALLEGED INFRINGEMENT OF ANCIENT LIGHTS AT CHELSEA.

Counsel applied to Mr. Justice Ridley, sitting as Vacation Judge, on the 8th inst., in the case of Keane *v.* Metcalfe and Another, for an *interim* injunction to restrain the defendants, until trial or further order, from interfering with plaintiff's ancient lights.

Counsel stated that the plaintiff was the lessee of a house in Chelsea, the defendants being the owners of premises at the rear and north-east of it, the back of the plaintiff's house facing east. The windows at the back of the plaintiff's house were ancient lights. Before the defendants commenced building operations, a very short time ago, there was only a building about 30 ft. high on the site. The defendants, as a matter of fact, had commenced erecting on the site enormous flats, and the building was to be 70 ft. high. He (counsel) had an affidavit by a surveyor stating that if building operations were allowed to continue for another week, a great injury would be done to the plaintiff's lights.

His Lordship: What is the distance between the plaintiff's windows and the flats?

Counsel replied about 30 ft., and that the defendants proposed to erect a building 70 ft. high, and more than double the height of the old building.

His Lordship asked what the height of the defendants' building was then?

Counsel said that the building was already over 30 ft. high.

His Lordship said that he did not like granting an *interim* injunction without hearing what the defendant had to say.

Counsel said that if an injunction was not granted the defendants would probably "rush" up their building before next Motion day to 50 ft.

His Lordship: How long is it since you got information as to these things?

Counsel replied that he thought that the plaintiff first heard of what was to be done by the defendants about two days ago.

His Lordship, after some further discussion, granted an *interim* injunction, as asked, over the 13th instant.

LIGHT AND AIR CASE SETTLED.

The case of Dawes *v.* Kent came before Mr. Justice Ridley, sitting as Vacation Judge in the Chancery Division on the 8th inst., it being an application by the plaintiff to restrain the defendant by injunction from erecting a building so as to obstruct the access of light and air coming to his (plaintiff's) building.

Counsel for the plaintiff now stated that he had arranged terms with Mr. Green (the defendant's Counsel), and an order would be taken by consent on those terms, which would be signed and handed in to the Registrar of the Court.

Order accordingly.

ALLEGED OBSTRUCTION OF LIGHT AND AIR.

Mr. Justice Ridley, sitting as Vacation Judge in the Chancery Division on the 8th inst., directed, by the consent of both parties, that a motion for an *interim* injunction in the case of Ward & Goldfinch *v.* McBlain & Freeman (a light and air action) should stand till the trial.

MEETINGS.

Saturday, October 16.

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection at the Express Dairy Company's Farm, College Farm, Finchley. 3 p.m.

Monday, October 18.

Sanitary Institute (Lectures for Sanitary Officers).—Professor A. Bostock Hill on "Factories, Workshops, and Offensive Trades." 8 p.m.

Liverpool Architectural Society.—Mr. J. H. McGovern on "Compensations." 6 p.m.

Wednesday, October 20.

Builders' Foremen and Clerks of Works' Institution.—Quarterly meeting of the members. 8 p.m.

Edinburgh Architectural Society.—Paper by Mr. W. A. Mellon. 8 p.m.

Thursday, October 21.

Sanitary Institute (Lectures for Sanitary Officers).—Professor W. H. Corfield on "Water Supply, Drinking Water, Pollution of Water." 8 p.m.

Friday, October 22.

Architectural Association.—Mr. E. O. Sachs on "Practical Lessons from the Paris Bazaar Fire." 7.30 p.m.

Institution of Junior Engineers.—Annual General Meeting, Westminster Palace Hotel. Report of the Council, Election of Officers, &c. 8 p.m.

Saturday, October 23.

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection at the Southwark and Vauxhall Waterworks, Hampton.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

22,234.—Ventilators and Chimneys: *T. Sherman.*—This invention consists in the employment of one or more auxiliary draught producers of any convenient form, and which may, when desired, be provided with a movable cowl.

23,453.—Joiner's Bench Stop: *H. Davies.*—The invention relates to a bench stop consisting essentially of a spring plate adapted to be fixed to the bench at one end, and being toothed at its other end, and of a screw threaded into a block and engaging with free end of spring plate.

24,095.—Coloured Flooring, &c., Tiles: *J. W. Knights.*—Invention relates to the manufacture of tiles consisting of hydrate of calcium (slaked lime), silica, and colouring matter, formed by pressing the ingredients, mixed in the form of a semi-dry powder, into slabs, and subsequently subjecting them to the action of an alkaline silicate solution.

24,621.—Cowl or Chimney Pipe: *J. H. Bouchill.*—Invention consists of a cowl having two unequal sized galvanised tubes, the smaller one being one-half fixed within the larger. Above mouth of smaller tube is suspended a movable saucer-shaped disc of iron.

25,225.—Manufacture of Bricks, Tiles, &c.: *A. W. Fludder and Another.*—Consists in the manufacture of bricks, &c., by mixing and combining chalk, marl, and silica in certain proportions, viz., for fire bricks one part marl and three of sand, and for glazed bricks six parts marl and five sand, &c.

16,807.—Outbuildings: *J. T. Crawford and Another.*—Deals with timber structures, with sills with upwardly curved ends, posts, cross braces, &c., which shall be rat, vermin, and snake proof.

17,951.—Attachments for Blinds, Window Sashes, &c.: *J. J. James.*—Invention consists in producing the screw attachment part of knot-holders for cords, &c., from two screwed together component parts, viz., a screw and a cap on head.

NEW APPLICATIONS FOR LETTERS PATENT.

September 27.—22,090, J. & S. Dibble, Combined Water closet and Sink.—22,093, J. Muson, Water-closet Tank and Connexions.

September 28.—22,149, J. Baxter, Caps, Buttons, &c., for covering Screw Nail Heads, and in Fastenings therefor.—22,210, A. Soutter, Sash Fasteners.—22,220, A. Boult, Flushing Apparatus for Water-closets, &c.—22,271, K. Kunze, Artificial Stone.

September 29.—22,304, W. Dickson, Chimney Cans.—22,315, D. Black, Brick-making and other Moulding Machines.—22,328, H. Mason, Lintel for Detachable Doors or Windows.—22,334, E. Smith, Stoneware or Earthenware Pipes.

September 30.—22,417, A. Mitchell and J. Bolger, Sewer Traps.—22,428, L. Ashworth and J. Taylor, Water-closets.—22,451, C. McClellan, Hinges.—22,461, G. Maxted and F. Knott, Bricks for Building Purposes, &c.—22,466, A. Heidt, Locks for Window Sashes, Doors, &c.

October 1.—22,512, W. Cottrill, Sanitary Earthenware Pipes.—22,526, J. Carlisle, Glazing, or in Securing Glass in Roofs, Domes, Frames, Windows, &c.

October 2.—22,580, W. Storey, Paint Pot Mould.—22,583, E. Turner, Gulley and other Traps.—22,600, K. Skeet, Process or Composition for the Covering and Preservation from Rust of Exposed Ironwork.—22,612, J. Green, Chimney Pots and Ventilators.—22,642, R. Bradshaw, Manufacture of Bricks, Tiles, &c.

PROVISIONAL SPECIFICATIONS ACCEPTED.

16,059, J. Owen, Fastening for Sashes.—19,458, M. Adams, Valves and Fittings for Lavatory and other purposes.—19,723, J. Milligan, Traps for Gullies, Closets, Sinks, &c.—19,971, M. Adams, Water-closets.—20,219, W. Reynolds, Charging Flush Cisterns or Closet-pans with a Disinfecting Fluid.—20,244, D. Morrison, Kitchen Sinks.—20,332, A. Marginson, Drain Pipes.—20,417, J. Taylor, Joint for Sewage and other Pipes.—20,558, T. Rhodes and R. Gaunt, Water-closets.—20,766, S. Mills, Water-closet Pans and their Service Pipes.—20,877, A. Laing, Window Sash Fasteners.—20,980, N. Collier, Pressing Bricks, Tiles, &c.—21,048, J. Green, Pans of Waste-water Closets.—21,141, J. Jones, Plaster for Walls, Ceilings, &c.—21,146, W. Pearce, Vitreous Decoration of Walls, Panels, &c.—21,393, D. Hill, Syphon Pipes for Water-closet Cisterns.—21,473, A. Platford, Silent-action Water Valve with Independent Float.—21,610, W. Durrant, Joints for Drain and other Pipes.—21,611 and 21,612, W. Durrant, Interception Traps, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

25,727, C. Gorringe, Stoppers for Varnish, Oil, Paint Cans, &c.—26,322, J. Fairlie, Lead Pigments.—26,697, R. Robinson, Dovetailing the Corners of Boxes, Drawers, and similar Joints of Woodwork.—27,430, J. Longue, Window and like Fasteners.—27,461, C. Watson, Roofing Tiles.—4,658, J. Hussey, Plumbers' and like Pots.—5,531, C. Jensen, Earth-closets, &c.—13,981, J. Quigley, Hand Tools for Pointing Walls and for other uses.—15,235, J. Amyes, Window Sash Fastener.—15,638, E. Fogg, Sash Fasteners.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

September 27.—By BISHOP & PRITCHETT (at Swindon).

Swindon, Wilts.—Canal-side, &c., two brickfields, area 19a. 1r. 10p., part f. and part u.t. 14½ yrs., r. 200*l.*, including goodwill, machinery, and plant £5,800
Princes-st., two plots of building land, 1a. 0r. 9p., f. 670

September 28.—By J. F. BLAND & CO.

Poplar.—158, 160, and 162, East India Dock-rd., f., r. 99*l.* 1,600
Limehouse.—297 and 299, Burdett-rd., u.t. 62½ yrs., g.r. 14*l.*, r. 71*l.* 670
Bow.—160 to 172 (even), Tredegar-rd., u.t. 79 yrs., g.r. 40*l.* 1,420
Sydenham.—Larkbere-rd., nine plots of building land, f. 320

By CLIMPSON & JOHNSON.

Balham.—58 and 60, Cheriton-sq., u.t. 85 yrs., g.r. 10*l.*, r. 64*l.* 600

By S. H. BAKER (at "Masons' Hall Tavern")

Woodford.—George-lane, "The George" p.-h., f., with goodwill 31,910

By SCHOFIELD & EVANS (at "Masons' Hall Tavern").

Wallington, Surrey.—"The Melbourne Hotel," u.t. 47 yrs., r. 170*l.*, with goodwill 13,030

By BELTON & SONS (at "Masons' Hall Tavern").

Southwark.—Borough High-st., "The Tabard" p.-h., u.t. 32 yrs., r. 120*l.* 4,750

By WILKINSON, SON, & WELCH (at Brighton).

Hurstpierpoint, Sussex.—"The Mount," f., r. 40*l.* 675
Brighton, Sussex.—53, Buckingham-rd., f. 830

By S. & G. KINGSTON (at Spalding).

Pinchbeck, Lincs.—"Manor Farm," 83 a. 0r. 1 p., f. and c. 4,350
Two freehold cottages and 0 a. 1 r. 0 p. 150
Enclosures of land, 29 a. 2 r. 14 p., f. 870

By ROBERTS, SON, & TORY (at Yetminster).

Beerhackett, Dorset.—"Higher Farm," 78 a. 3r. 14 p., f. 2,550
"Lower Farm," 68 a. 2r. 37 p., f. 2,000
Two freehold holdings, area 31 a. 1 r. 22 p., f. .. 1,650
Various enclosures of land, 22 a. 3r. 35 p., f. 695

By HUTCHINGS & DEER (at Stratford-on-Avon).

Stratford-on-Avon, Warwick.—"Alveston Hill and Little Hill Farms," 302 a. 1r. 6 p., f. 8,100

By W. R. NICHOLAS & CO. (at Reading).

Finchampstead, Berks.—Two freehold cottages and 4 a. 1 r. 29 p. 310
"Vine Cottage" and 2 a. 0r. 30 p., f. 245
Blacksmith's shop and premises and 2r. 12 p., f. 200
Various building sites, 58 a. 0 r. 7 p., f. 1,585
Various enclosures of land, 23 a. 3r. 30 p., f. 695
"Broom Close," 19 a. 3 r. 19 p., f. 400
"Webb's and Shepperland's" Farms, 247 a. 1 r. 35 p., f. 5,000
"The New Mill," 38 a. 2 r. 2 p., f. 695
A freehold plantation, area 24 a. 3 r. 20 p. 390
A freehold building estate, area 49 a. 3 r. 20 p.. 1,525

By C. RAWLEY CROSS & CO. (at Shepherd's Bush).

Kensington.—12, Maclise-rd., u.t. 80 yrs., g.r. 17*l.* 310
Shepherd's Bush.—21, Godolphin-rd., u.t. 56 yrs., g.r. 9*l.* 255
Hammersmith.—23, Carthew-rd., u.t. 66 yrs., g.r. 4*l.* 48. 220
Chiswick.—35, Annandale-rd., u.t. 81½ yrs., g.r. 5*l.* 10s. 250

September 29.—By MESSRS. DRIVERS (of Holloway).

Holloway.—144, Marlborough-rd., u.t. 64 yrs., g.r. 5*l.*, r. 30*l.* 200
Crouch End.—7, Drylands-rd., u.t. 90½ yrs., g.r. 6*l.* 10s., r. 30*l.* 285

By HARMAN BROS.

Haggerston.—10, Brownlow-rd., u.t. 47½ yrs., g.r. 4*l.*, r. 28*l.* 285

By DOUGLAS YOUNG & CO.

Walworth.—47 and 49, Thurlow-st., u.t. 53 yrs., g.r. 10*l.* 410
Kensington.—29 to 37 (odd), Star-rd., f., r. 158*l.* 12s. 1,410
Fulham.—19, Pellant-rd., u.t. 77½ yrs., g.r. 5*l.* .. 185
Greenwich.—1, Langdale-rd., u.t. 58½ yrs.. g.r. 5*l.*, r. 32*l.* 340
Canning Town.—26 and 28, Bidder-st., u.t. 66 yrs., g.r. 10*l.* £450
Wandsworth.—13, 15, 16, 17, and 18, Chivalry-rd., f., r. 204*l.* 3,210

By R. TIDEY & SON.

Canonbury.—67, Grosvenor-rd., u.t. 52 yrs., g.r. 8*l.* 10s., e.r. 55*l.* 595
De Beauvoir Town.—2 and 4, Mortimer-road, u.t. 17 yrs., g.r. 9*l.* 285
Pentonville.—8, Henry-st., u.t. 32 yrs., g.r. 20*l.*, r. 52*l.* 150

September 30.—By E. HOLSWORTH.

Hackney Downs.—32, Pembury-road, u.t. 45 yrs., g.r. 6*l.*, e.r. 75*l.* 540

By P. HODSON.

Tottenham.—56 and 64, Blackboy-lane, u.t. 81 yrs., g.r. 10*l.* 10s. 380
Islington.—195, Essex-rd., u.t. 21 yrs., g.r. 5*l.*, r. 40*l.* 195

By STIMSON & SONS.

Woolwich.—6, Powis-street, u.t. 60 yrs., g.r. 45*l.*, r. 170*l.* 1,600
Prickwillow, Cambs.—A freehold farm, comprising 53 a. 1 r. 13 p., r. 40*l.* 600
Regent's Pk.—28, Albany-st., and 59 and 61, Longford-st., u.t. 25 yrs., g.r. 26*l.* 5s., r. 154*l.* 1,070
Barnsbury.—Offord-rd., i.g.r. 56*l.*, u.t. 51½ yrs., g.r. 24*l.* 630
Rotherhithe.—59, Derrick-st., and 8 and 9, Sedger's-bldgs., f. 300
Brockley.—53 and 55, Braxfield-rd., u.t. 79 yrs., g.r. 9*l.* 5s., r. 52*l.* 465
Peckham.—57, 59, and 61, Banstead-st., u.t. 79 yrs., g.r. 14*l.* 5s. 170
Dulwich.—22, Landells-rd., u.t. 70 yrs., g.r. 7*l.*, e.r. 28*l.* 160
Silvester-rd., freehold stables and yard, f. 255

By C. FULLER & SON.

Woodford.—1 and 2, Albert-cottages, f., r. 40*l.* 17s. 1, 2, and 3, Albert-villas, f., r. 96*l.* 500
Whitehall-rd., "Forest Cottage," f., r. 30*l.* 1,255
Whitehall-rd., a plot of building land, f., r. 3*l.* .. 450

By BAXTER, PAYNE, & LEPPER.

Keston, Kent.—Main road, a plot of freehold land. 285

By BRIANT & SON (on the premises).

Bayswater.—15, Talbot-rd., u.t. 54½ yrs., g.r. 5*l.*, e.r. 80*l.* 450

October 1.—By FRANK LLOYD (at Holywell).

Mostyn, Flint.—"Rhewl Villa" and "Rhewl Cottage" and 1 a. 0 r. 32 p., f. 720
Fifteen building sites, 16 a. 0r. 26 p., f. 600
Enclosures of land, 11 a. 2r. 6 p., f. 1,410
Ysceifiog, Flint.—Part of "Berthen Farm," 11 a. 0r. 39 p., f. 470
Enclosures of land, 22 a. 2r. 35 p., f. 260

October 4.—By FRANK LLOYD (at Wrexham).

Ruabon, Denbigh.—"Cynders Farm," 46 a. 0r. 17 p., f. 675
An enclosure of land, 1 a. 0r. 22 p., f. 2,200
Bangor, &c., Denbigh.—Enclosures of land, 18 a. 3r. 25 p., f. 110

By R. DALTON (at Carlisle).

Wetherall, Cumberland.—"The Holmehouse Estate," 76 a. 2r. 17 p., f. 1,175

October 5.—By FIELD & SONS.

Walworth.—19, 21, and 23, Runham-st., f., r. 97*l.* 10s. 3,960

By BRODIE, TIMBS, & CO.

Caledonian-rd.—19, Edward-sq., u.t. 41 yrs., g.r. 2*l.*, r. 30*l.* 900
Limehouse.—3 to 15, Dora-st., and l.g.r. 5*l.*, u.t. 4½ yrs., g.r. 10*l.* 305
Bow.—13, 14, 15, and 16, Denbigh-rd., u.t. 31¼ yrs., g.r. 12*l.* 170

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G.		
ton	£8/0/0	£9/0/0
Teak, E.I. ....load	£0/15/0	£3/10/0
Sequoia, U.S.ft.cu.	1/0	1/10
Ash, Canada load	£3/10/0	£4/15/0
Birch, do.	4/7/6	£0/0/6
Elm, do.	4/5/0	£3/10/0
Fir, Dantzic, &c..	£0/0/0	£4/0/0
Oak, do.	£2/2/6	£3/2/6
Canada	5/5/0	£0/5/0
Pine, Canada red	0/0/0	0/0/0
Do. Yellow	£2/12/6	£4/12/6
Lath, Dantzic, 6th	£4/10/0	£5/10/0
St. Petersburg..	£3/0/0	£4/10/0
Wainscot, Riga, &c., log	£2/2/6	£3/7/6
Odessa, crown....	£2/2/6	£3/7/6
Deals, Finland		
2nd & 1st std 100	£5/5/0	£8/15/0
Do. 4th & 3rd...	£5/5/0	£8/15/0
Do. Riga	£6/15/0	£7/15/0
St. Petersburg, 1st yellow....	£0/5/0	£2/15/0
Do. 2nd yellow	£0/5/0	£0/15/0
Do. white	£2/15/0	£0/15/0
Swedish	£0/5/0	£5/15/0
White Sea.....	£0/15/0	£6/15/0
Canada, Pine 1st	£0/15/0	£6/15/0
Do. do. 2nd	£5/5/0	£7/5/0
Do. do. 3rd, &c.	£7/15/0	£2/5/0
Do. Spruce, 1st.	£0/15/0	£0/5/0
Do. do. 3rd and 2nd	£3/5/0	£5/5/0
New Brunswick	£7/15/0	£8/5/0
Battens, all kinds	£0/0/0	£0/0/0
Flooring boards, 2nd, 1 in. prep. 1st	£0/8/6	£0/15/6
Do. 2nd	£0/7/0	£0/12/0
Other qualities—	£0/5/0	£0/6/6
Cedar, Cuba, ft.	/4	/4½
Honduras, &c.	/3	/4½
Mahogany, Cuba	/5	/6½
St. Domingo, cargo av.	/4½	£0/2/3
Mexican, do. do.	/3½	/4½
Tobasco, do. do.	/4	/6½
Honduras, do.	/4½	/6
Box, Turkey, ton	£0/0/0	£0/0/0
Rose, Rio.....	£0/0/0	£0/0/0
Bahia	£0/0/0	£0/0/0
Satin, St. Domingo,	£0/0/5	£0/0/0

TIMBER *(continued)*.

Satin, Porto Rico	£0/0/6	£0/1/6
Walnut, Italian ..	£0/0/3	£0/0/7

METALS.

Iron—Pig, in Scotland .....ton	£3/4/8½	£3/5/0
Bar, Welsh, in London	£5/15/0	£5/17/6
Do. do. at works in Wales	£5/10/0	£5/12/6
Do. Staffordshire, in London.....	£5/5/0	£5/10/0
COPPER—British cake and ingot	£1/15/0	£2/5/0
Best selected ..	£2/5/0	£2/15/0
Sheets, strong..	£7/10/0	£8/10/0
Chili bars	£4/7/6	£0/0/0
YELLOW MTL lb.	4½d.	5½d.
LEAD—Pig		
Spanish ....ton	£3/10/0	£3/12/6
English com. brands	£3/12/6	£3/17/6
Sheet, English 6 lbs. per sq. ft. and upwards ..	£4/17/6	£0/0/0
Pipe.....	£5/7/6	£0/0/0
ZINC—English sheet.....ton..	£0/5/0	£0/0/0
Vieille Montagne	£2/10/0	£0/0/0
Spelter	£7/10/0	£7/15/0
TIN—Straits	£0/10/0	£0/0/0
Australian.....	£3/5/0	£3/15/0
English Ingots.	£5/5/0	£6/0/0
Banca	£1/0/0	£0/0/0
Billiton	£3/15/0	£4/0/0

OILS.

Linseed .....ton	£4/17/6	£0/0/0
Cocoanut, Cochin	£7/15/0	£0/0/0
Do. Ceylon	£4/0/0	£0/0/0
Palm, Lagos.....	£4/12/0	£0/0/0
Rapeseed, English pale	£7/10/0	£7/15/0
Do. Brown	£7/0/0	£7/10/0
Cottonseed ref. ..	£5/7/6	£6/10/0
Olein.....	£0/10/0	£0/10/0
Lubricating U.S.	£0/0/3	£0/7/6
Do. black	£0/0/0	£0/0/6
TAR—Stockholm barrel	[£2/3	£0/0/0
Archangel.....	£0/12/6	£0/0/0
Turpentine	£2/5/0]	£0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

BARNARD CASTLE.—For the erection of a farmhouse at Arlaw Banks, near Barnard Castle, for the Rev. Henry Lonsdale. Mr. F. H. Livesey, architect, Market-place, Bishop Auckland:—

R. Wilson	£670	15	0
G. Scott	645	15	0
Robinson & Addison†	604	9	9
J. Kyle & Sons*	620	0	0
J. Hetherington	576	2	6
J. Hepworth	£513	13	6
R. & S. Adamson, Gainford*	450	0	0
J. Tyreman‡	371	9	11
J. Wandless‖	31	7	6
J. Harrison‖	30	3	0

* Accepted. † Separate builders tendering together. ‡ Carpenter, joiner, plumber, painter, and glaziers' work. ‖ Tiler.

BIRKENHEAD.—Accepted for paving, flagging, channelling, and sewering of various passages, for the Corporation. Mr. L. Brownridge, Borough Engineer and Surveyor, Town Hall, Birkenhead:—

P. Gaven, Pym-street, Birkenhead	£89	5	0 .. £24 5 7
W. F. Chadwick, Great Howard-street, Liverpool	57	13	6 .. 101 14 0
Thos. Horrocks, Greenwich-road, Walton, Liverpool	58	9	10 .. 64 7 9

BRENTFORD.—For works at the pumping station, Town Meadow, for the Urban District Council. Mr. Nowell Parr, Engineer and Surveyor to Council. Clifden House, Boston-road, Brentford:—

J. Brooking	£956	0	
F. & H. F. Higgs	950	0	
Foord & Sons	910	0	
J. Barnes	880	9	
Foord & Hudson	£850	0	
Godson & Son, Kilburn-lane, W. (accepted)	750	0	
[Surveyor's Estimate £975.]			

BRIDLINGTON QUAY.—Accepted for the erection of two pair of villas, Marshall-street, for Mr. J. Woodmassey. Mr. J. Earnshaw, architect, Wellington-road, Bridlington Quay:—

R. Bailey, Bridlington Quay £1,740

BRISTOL.—For the construction of two new streets, with sewers and boundary wall, at Pile Marsh, St. George:—

Lloyd & Son	£565	0	0
W. Mereweather	399	0	0
Thatcher	294	13	0
G. Jones	£276	17	6
F. Martin, St. George*	257	13	4

* Accepted.

CARDIFF.—For kerbing, channelling, paving, and metalling Gilchon and Pontcanna roads, and for other works, on the Pontcanna Estate, for Mr. W. S. Powell. Mr. C. Telford Evans, architect, 8, Queen-street, Cardiff:—

Williams & Thomas	£959	18	0
W. Thomas & Co. ..	950	0	0
James Wood	923	19	11
Frank Ashley.....	903	4	6
Barnes, Chaplin, & Co.....	£864	13	8
W. Rich	811	12	11½
Thomas Rees, Eley, Cardiff*	805	0	

* Accepted.

CARDIFF.—For alterations and additions to the "Splotlands Inn, Cardiff, for Messrs. W. Hancock & Co., The Brewery, Cardiff:—

Evans Bros. & Co.	£800	0	
Williams & Thomas	625	0	
S. Shepton & Son	560	5	
John Mathias.....	£538	10	
Beames & Nephews, Cardiff*	547	5	

* Accepted.

CHESHUNT.—For the erection of a house at Cheshunt, N., for Mr. J. F. Rainer:—

F. Walker..	£425		
R. Arches.....	415		
J. Porter	408		
W. Lawrence, Waltham Abbey (accepted).....	£399		

CHISWICK.—For the making-up of roads, for the Urban District Council. Mr. A. Ramsden, Surveyor to the Council, Vestry Hall, Chiswick:—

Hiram Morecroft ..	£4,182	0	0
B. Nowell & Co.....	3,695	5	5
Sydney Hudson....	3,167	19	9
M. N. Rhodes, Thornton-avenue, Chiswick (accepted) ..	£2,928	0	0

CROYDON.—For additions to schools, Morland-road, Woodside, for the School Board. Mr. Robert Ridge, architect. Quantities by Mr. Mansfield Price, Sutton:—

J. Smith & Sons	£3,127		
J. & C. Bowyer	3,085		
Akers & Co.....	3,039		
Saunders	3,020		
G. E. Bryan & Co.....	2,997		
A. Bullock.....	£2,973		
Bulled & Co.†	2,569		
Huntley Bros., Handcroft-road, Croydon*	2,890		

* Accepted provisionally.

DENBIGH.—For the erection of a new school-room and alterations, for the Welsh Calvinistic Methodist Chapel, Heullan-street, Denbigh. Mr. Thomas Parry, Llys Aled, Colwyn Bay:—

J. S. Roberts, Plough Inn, Denbigh £185

EALING.—For supplying and laying in various parts of the district Norwegian granite kerb and Leicestershire granite channelling, for the Urban District Council. Mr. Chas. Jones, Engineer:—

M. N. Rhodes.....	£1,065	5	10
H. Morecroft	1,057	0	0
B. Nowell & Co.....	1,014	4	5
Wm. Wadey.....	992	0	0
Geo. Wimpey & Co.	963	2	0
Laurence & Thacker	£913	3	4
Bentham & Co., High-street, Plumstead*	894	16	9

* Accepted.

ENFIELD.—Accepted for erecting a terrace of cottage residences, for the Freehold and Leasehold Investment Company, Ltd., 353, Goswell-road, E.C. Mr. E. C. Beaumont, architect, 78, Fleet-street, E.C. Quantities by the architect:—

Marsden & Bailey £1,759

ERDINGTON.—Accepted for making-up, &c., Hillaries-road and Frederick-road, for the Urban District Council. Mr. Herbert H. Humphries, Surveyor to the Council, Public Hall, Erdington:—

Cursall, Lewis, & Martin, Birmingham £854 5

FEATHERSTONE.—For the erection of nineteen houses, for Mr. W. Anderson. Messrs. Garside & Keyworth, architects, Pontefract:—

Jackson Bros.	£2,992	0	
Mollekin & Co.....	2,792	6	
Walker & Ward, Pontefract (accepted).....	£2,769	10	

FORRES.—Accepted for additions to the Cluny Hill Hydropathic Establishment, Forres, and for supply of grates. Mr. J. Forrest, architect, 129, High-street, Forres:—

Masonry.—David Ross, Tollbooth-street, Forres
Carpentry.—James Smith, South-street, Forres ..
Slating.—Jas. Gray & Son, Inverness .....
Plastering.—Angus & Ross, Orchard-road, Forres
Plumbing.—Boyne & Martin, Caroline-street, Forres..... £1,558 5 6
Painting.—Archibald Macdonald, High-street, Forres .....
Glazing.—Archibald Macdonald, do. .....
Blacksmithing.—W. Smith & Son, High-street, Forres.....
Grates.—W. Smith & Son, do.....

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Designs for Centre Standards and Side Posts for Tramway	Sheffield City Council	10 guineas	Oct. 30
*Public Hall	Wells T.C.	25l. 15l. and 10l.	Nov. 30
*Town Hall	Dukinfield U.D.C.	40l. and 20l.	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Buildings, Gorleston	Mission to Deep Sea Fishermen	S. Rivett, Archt. 5, South Quay, Great Yarmouth	Oct. 16
Dwelling-house, Upper Violet-street	.....	W. Barker, Archt. Richmond-st. Londonderry	do.
Dredging, &c. Works	.....	J. Russell, C.E 16, Waring-street, Belfast	do.
Wards, Leeds Workhouse	Leeds Union	J. Mitchell Bottomley, Archt. 46, Albion-street, Leeds	Oct. 18
Baths, &c. Wapping-road School	Bradford School Board	C. H. Hargraves, Archt. Exchange-bldgs, Bradford	do.
Painting, &c. Hospital, Tillington	Stafford Corp.	W. Blackshaw, Borough Engineer	do.
Station Masters' Houses (four)	G. N. R. Co. (Ireland)	Co.'s Engr. Amiens-street Terminus, Dublin	do.
Buildings for Refuse Destructor, &c. Old Trafford	Stretford U.D.C.	J. Bowden, Archt. 14, Ridgefield, Manchester	do.
Painting at various Baths	Manchester Corporate (Baths Committee)	City Surv. Town Hall, Manchester	do.
Re-building Culvert	Windsor R.D.C.	W. Menzies, Surv. to Coun. Englefield Green, Surrey	do.
Erection of Three Cottages, Barc	The Misses Clayton	W. Clayton, Main-street, Morecambe	do.
Nine Houses and Four Shops	Mr. T. Baxter	J. Marshall, Archt. Bank-crescent, Morecambe	do.
Shops, Warehouses, &c.	Mr. W. C. Farrar	do.	do.
Painting Ten Schools	Bradford School Board	School Board Office, Manor-road, Bradford	do
Air Compressor and Receivers	Wimbledon U.D.C.	C. H. Cooper, Engr. to Council, The Broadway, Wimbledon	do.
*200 tons Broken Flints	Bermondsey Vestry	Frank Bummer, Vestry Hall	do.
Dormitories, &c. at Workhouse	Hull Guardians	Freeman, Son, & Gaskell, Archt. Albert-chambers, 11, Carr-lane, Hull	do.
Factory, Raunds, Northants	St. Crispin's Productive Soc. Ltd.	C. Groom, Secretary	do.
Additions to South View, Elgin	.....	C. C. Doig, Archt. Elgin	do.
Additions to Craigellachie Hotel	.....	A. & W. Reid & Wittet, Archts. Elgin	do.
Gallery, &c. Chapel, Skatly	.....	W. W. Williams, Archt. 63, Wind-street, Swansea	Oct. 19
Girls' School for 420, &c.	St. George School Bd.	F. High Bond, Archt. 51, Corn-street, Bristol	do.
Alterations at Bath House	Kingston Corporation	Boro Surv. Kingston-on-Thames	do.
Public Baths, Barking	Barking U.D.C.	Surv. to Council, Public Offices, Barking, Essex	do.
20 Cast-iron and 5 Welded Steel Ventilator Columns	do.	do.	do.
Additions to Caretaker's House	Barrow-in-Furness Sch. Board	School Board Offices	do.
School, Kittybrewster	Aberdeen School Bd.	Brown & Watt, Archt. 17, Union-terrace, Aberdeen	Oct. 20
Two Houses and Shops, Purston	Mr. H. Palfreyman	Garal te & Keyworth, Archt Pontefract	do.
Pipe Sewers, Holmside	Lanchester R.D.C.	J. E. Parker, Engr. Post Office-chmbrs, Newcastle-on-Tyne	do.
Dwelling-house, &c. Ballyclare	.....	31, Garfield-st Belfast	do.
Roads, Sewers, &c. Machen Bank Estate	.....	G. A. Wilson, Archt. & Surv. Hartshead-chmbrs, Sheffield	do.
Lecture Hall, Ebrington Presbyterian Church	.....	W. Baker, Archt. Richmond-st Londonderry	do.
Retaining Wall	.....	Boro Surv. Town Hall, Rochdale	do.
Sanatorium, Royal Cross School, Preston	.....	Sames & Green, Archt. 63, Northgate, Blackburn	Oct. 21
Refreshment Rooms, &c. Pier Terminus	Rhyl Pier Co.	E. A. Watkins, 9, Rutland-street, Swansea	do.
*Removal of Slop	Hampstead Vestry	The Surveyor, Vestry Hall	do.
*Paving, &c. &c. Materials	Ormskirk U.D.C.	R. C. Ivy, Surveyor's Office, Ormskirk	Oct. 22
*Timber Framed Batteries, Drill Shed, &c.	Admiralty Works Dep	Coastguard Station, Lowestoft	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
House, Gordon road, Southtown	Mr. J. L. Hunt	C. G. Baker, Archt. Town Hall-chambers, Great Yarmouth	
Construction of Railway, No. 8	Rhondda & Swansea Bay Railway	Engineer, 8, Fisher-street, Swansea	Oct. 22
Pumping Machinery, &c.	Hindley U.D.C.	A. Holden, Engr. Council Offices, Hindley	Oct. 23
Sewerage Works, Contract 1	do.	do.	Oct. 25
Ironwork for Sewerage Disposal	do.	do.	do.
*Laying Crossings and Paving	Beckenham U.D.C.	J. A. Angell, Council Offices	do.
Drainage, Contract 3	Shipley U.D.C.	Malcolm Paterson, Engr. 35, Manor-row, Bradford	do.
Catholic Schools, &c. Gillingate, Kendal	Rev. Father Stevenson	J. Stalker, Archt. Kendal	Oct. 26
Villa Residence, Featherstone	Dr. Steven	Garside & Keyworth, Archt. Ropergate, Pontefract	do.
Stores, New Bilton	Rugby Co.-Op. Soc.	J. T. Franklin, Archt. 46, Bridget-st. Rugby	do.
*Kerbing and Channelling	Bromley U.D.C.	Surveyor, Council Offices	do.
*Ward Pavilion at Hospital	County Borough West Ham	L. Angell, Town Hall, Stratford, E.	do.
*Kerbing, Channelling, &c.	Lewisham B. of W.	Surveyor's Office, Town Hall, Catford, S.E.	do.
*Constructing about 9 miles of Aqueduct	Birmingham Corp. (Waterworks)	J. Mansergh, 5, Victoria-street, S.W.	Oct. 27
*Laying-out, Sewering, &c. New Road	Coventry Corp.	J. E. Swindlehurst, St. Mary's Hall, Coventry	Oct. 28
*Branch Post Office at Surbiton	Commrs. H.M. Works	Secretary, 12, Whitehall-place, S.W.	do.
Dining Hall and Stores at Workhouse	Birmingham Guns	Mr. H. Ward, Archt. Paradise-st. Birmingham	do.
Residence, Windermere	Dr. Mason	R. Walker, Archt. Windermere	do.
*Engine Houses, Coal Store, Chimney shaft, &c.	Shrewsbury Corp.	Taylor, Sons, & Crimp, 27, Great George-st. S.W.	Oct. 29
School Alterations, Horrabridge	Whitchurch S.B.	W. Squire, Architect, Tavistock	Oct. 30
Infirmary at Workhouse	Falmouth Guardians	J. H. Genn, Clerk to Guardians	do.
*Removal Chalk and Re-making Road	County of Southampton	W. J. Taylor, The Castle, Winchester	Nov. 1
*New Offices, Barry Dock	Barry Railway Co.	Co.'s Engr. Barry Dock	do.
*School	Hornchurch S.B.	E. M. Whittaker, 1, Gresham-bldgs. Basing hall-street, E.C.	do.
*Erecting Block of Buildings	Brighton Guardians	H. S. Reed, Office, Princes-st. Brighton	Nov. 2
*Meat Store, &c. at Infirmary	Chelsea Guardians	Lansdell & Harrison, 12, Compton-ter. Highbury, N	do.
Paving Public Streets	Sunderland Corp.	Boro. Engr. Town Hall Sunderland	Nov. 3
*Erecting Hospital, Drainage, &c	Farnham Joint Isolation Hospital	S. Stapley, West-street, Farnham	do.
*Six Shops and Dwelling-house	.....	F & W Stacker, 90 & 91, Queen-st. Cheapside, E.C.	do.
*Post Office, Bedford	Commrs. H.M. Works	Office, 12, Whitehall-place, S.W.	Nov. 5
*Water Supply (See advt.)	Government of Para, Brazil	Brazilian Consulate, London, &c.	Nov. 30
Levelling, &c. Athletic Ground	Celtic Football Club	W. J. Moore, Archt. Anne-street, Belfast	No date
Alterations, &c. to Licensed Premises	Mr. C. Cassidy	J. V. Brennan, Archt. 81, High-street, Belfast	do.
*School	Douglas, Isle of Man, School Committee	L. R. Lewin, Office, Douglas	do.
Premises, Mulberry-st. Hulme	Grange Park Dairy Co.	E. W. Leeson, Archt. 49, Princes-st Manchester	do.
House and Shop, Donaghadee	Mrs. Davidson	T. Pentland, Archt. 35, High-street, Belfast	do.
Gas Producers, &c.	.....	J. G. Tinley, C.E. 4, Waring-street, Belfast	do.
Structural Alterations	.....	Fishlock Bros. Elliot-st Liverpool	do.
Stables, &c. Lamb Inn, Knottingley	.....	Tennant & Bagley, Archts	do.
Seven Houses, Ashton	.....	R. Garside, Town Hall Chambers, Ashton-under Lyne	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Assistant Drainage Inspector	Cape Town Corp. (Davis & Soper, 54, St. Mary Axe, E.C.)	175l. First Year, 200l. Second Year, Passage Paid	Oct. 20
*Superintendent of Scavenging	St. Luke's Vestry	200l. rising to 250l. per an.	do.
*Draughtsman	Bradford Corp.	125l. per an.	Oct. 21
*Clerk of Works	Southampton Corp.	3s. 3s. per week	Oct. 25
*Clerk of Works	Croydon R.D.C.	3l. 10s. per week	Oct. 27
*Clerk of Works	St. Olave's Union, Bermondsey	3l. 10s. per week	Nov. 2

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, p. iv. *Contracts*, pp. iv. vi. & viii. *Public Appointments*, pp. xvi. xvii. & xix.

FOREST GATE.—For the erection of Masonic Hall, buffet, &c., at the "Princess Alice" hotel, for Mr. James Copper. Mr. Henry Poston, architect, 39, Lombard-street, E.C.:—

J. Mowlem & Co.	£8,234	T. Simmons	£7,989
W. J. Maddison	8,122	T. Welsh & Son*	7,420
G. Todd & Co.	7,989	*Accepted.	

HARROW.—For alterations to the "Roxboro'" Hotel, Harrow-on-the-Hill, for Mr. J. H. Baxter. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C.:—

F. H. Hopkins £1,520

HAWARDEN.—For the erection of county school. Messrs. Grayson & Ould, architects, 31, James-street, Liverpool. Quantities by Mr. E. W. Nobbs:—

H. Willcock & Co.	£3,466 0	T. J. Roney	£2,847 0
Thos. Browne	3,316 0	A. Hiles	2,697 14
Jones & Sons	2,970 0	W. & T. Bailey	2,546 5
C. Woods & Sons	2,891 0		

HEWORTH.—For the erection of a caretaker's house, Felling Shore School, for the Heworth School Board. Mr. H. Smith, architect, Felling:—

Jas. McGowan, Felling £936

HUDDERSFIELD.—For erecting a dwelling-house, Williamstreet, Crosland Moor. Mr. J. Berry, architect, 9, Queen-street, Huddersfield:—

Masonry.—J. H. Brook, Paddock
Joinery.—Geo. Ainley, Crosland Moor
Plumbing.—Sanderson Bros., Lockwood
Plastering.—G. H. Day, Milnsbridge
Painting.—T. Cartwright, Crosland Moor
Slating.—Pickles Bros., Huddersfield
Concreting.—John Cooke, Little Royd
} £450

HUDDERSFIELD.—For the erection of new offices and extensions to mill, for Messrs. B. Vickerman & Sons, Limited. Mr. J. Berry architect, 9, Queen-street, Huddersfield:—

Masonry and Joinery.—R. Graham & Sons, Folly Hall
Plumbing.—D. Taylor & Sons, Lockwood
Plastering.—N. Jessop & Son, Berry Brow
Painting.—J. H. Stuttard, Huddersfield
Slating.—H. & B. Aspinall, Berry Brow
Ironwork.—J. & I. W. Longbottom, Holmfirth
Wood Block and Concrete.—J. Cooke, Little Royd
} £1,500

HUMBERSTONE (Leicester).—For excavating and foundation works for additions to Borough Asylum, for Committee of Visitors. Leicester Borough Asylum. Mr. G. T. Hine, architect, 35, Parliament-street, Westminster:—

H. Lovatt	£10,443 4 6	H. Hubert	£8,397 0 0
Bentley & Lock	10,092 18 5	Johnson & Son	8,044 19 2
Mason & Son	10,082 13 9	Moss & Son, Loughborough*	6,975 17 8
E. Fox	9,169 0 0	*Accepted.	
Haycock & Son	9,104 9 0		

[Schedule prices.]

LEYTON.—For constructing 9-in. and 12-in. pipe sewers, with all necessary manholes, &c., in Quartermile-road, and for supplying and laying about 460 yds. of granite kerb in Quartermile-road; also for grubbing up hedge, forming footpath, &c., in Lee Bridge-road, for Leyton Urban District Council. Mr. W. Dawson, M.Inst.C.E., Town Hall, Leyton:—

T. Adams	£1,043 7 0	G. Wilson, Walthamstow*	£753 17 6
W. Manders	863 7 6	*Accepted.	
J. Jackson	777 0 0		

LISBELLAW (Ireland).—For building a vestry room and for internal repairs of church. Mr. T. Elliott, C.E., Enniskillen, Ireland:—

W. Duncan	£249	J. Bloomfield, Brockeborough (accepted)	£163
D. Funston	217		
Donnelly	209		

LLANDUDNO.—For the erection of electric lighting and refuse destructor buildings, for the Urban District Council. Mr. E. P. Stephenson, Engineer to the Council, Llandudno:—

Gledhill & Thomas	£7,859 10 8	R. Luther Roberts, Llandudno*	£5,804 13 6
Evan Roberts & Son	6,391 0 0	*Accepted.	
Samuel Warburton	5,525 9 0		

LONDON.—For erecting residence chambers, &c., Ormond-yard, St. James', W., for Mr. George Lawes. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C.:—

Wall & Co.	£5,076	H. Minter	£4,600
Lascelles & Co.	5,041	Bulman & Son	4,528
W. Rowe	4,954	Pritchard & Renwick	4,508
T. Hooper	4,875	Courtney & Fairbairn	4,347
H. L. Holloway	4,790		

LONDON.—For the erection of new shops, flats, &c., at 24, Kingstreet, St. James's, S.W., for Mr. W. J. Purser. Mr. Walter Hearn, architect, Grove Park West, London, W. Quantities by Mr. W. Thompson:—

Lorden & Sons	£5,975	Beer & Gash	£5,823
Bywater	5,965		

LONDON.—For rebuilding the "Jolly Coopers" public-house, Clerkenwell-close, E.C., for Mr. J. Cambden. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C.:—

Structural.

Courtney & Fairbairn	£2,451	Edwards & Medway	£2,364
Godson & Son	2,425	Dearing & Son	2,275
W. Smith	2,417	R. E. Clarke*	2,205
Wall & Co.	2,397	*Accepted.	

Fittings.

Astill & Co.	£749	Brown & Co.	£618
Lascelles & Co.	746	Bulman & Son	580
R. E. Clarke	645		

LONDON.—For rebuilding the "Royal Oak," Whiston-street Haggerston, N., for Messrs. F. Hurdle & Co. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square W.C. :—

Structural.

R. H. Clarke	£3,306	W. Smith	£2,900
Wall & Co.	3,293	W. Rowe	2,993
Lascelles & Co.	3,157	Pitchard & Renwick	2,883
Furman & Son	3,141	Courtney & Fairbairn*	2,843
H. L. Holloway	2 993		

* Accepted.

Pewtering.

J. Warne & Co.	£94	R. Heath (accepted)	£87
R. E. Lane	88	H. & F. Warne	80

LONDON.—For billiard saloon and lounge at the "Woodman Hotel, West w Hill, Sydenham, S.E., for Mr. W. Dowling. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Mr. Byrne £665

Fittings.

Brown & Co £505

Pewtering and Gasfittings.

Buckley & Beach £240

LONDON.—For alterations to the "Phœnix Distillery," Norton Folgate, N.E., for Messrs. Wenson & Lyon. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Brown, Kruse & Co.	£4,150	Burman & Son	£3,300
Lascelles & Co.	3,594	W. Rowe	3,226
H. Minter	3,536	Edward & Medway	3,180
Ansell & Son	3,345	Stevens Bros	3,143

Pewtering.

Sanders	£162	J. Warne & Co.	157
H. & F. Warne	159		

Gasfittings.

Morris	£220	W. Winn	£190

LONDON.—For rebuilding the "Earl Russell" public-house, Wells-street, Oxford-street, W., for Messrs. Grimes & Co. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Wall & Co.	£5,070	Courtney & Fairbairn	£4,795
Parsons	4,938	H. L. Holloway	4,700
W. Smith	4,869	Dearing & Son	4,672
L. Whitehead & Co.	4,860	T. Hooper*	4,655
F. H. Hopkins	4,815	Tyreman†	4,590
Pritchard & Renwick	4,820		

* Accepted. † Too late.

LONDON. — For alterations to the "Smiths' Arms," New Church-street, Bermondsey, S.E., for Mr. J. Pidgeon. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-street, W.C. :—

Structural.

Burman & Son	£1,592	Courtney & Fairbairn	£1,136
F. H. Hopkins	1,183	Edwards & Medway	1,111
C. Minter	1,167	Godson & Son (accepted)	1,110

Gasfittings.

W. Winn (accepted) £107 9 6

Pewtering.

Buckley & Beach (accepted) 96 0 0

LONDON.—For alterations to the "General Havelock," Parkstone-road, Peckham, S.E., for Mr. D. Wybrow. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Byrne	£1,969	Baston"	£1,441
Wall & Co.	1,684	Tyreman	1,414
Richardson	1,487		

Subsequent Estimate for Rebuilding.

Tyreman (accepted) £1,275

Fittings.

Brown & Co. £775

LONDON.—For structural rebuilding of the "Falcon" public-house, and offices, Falcon-square, E.C., for Mr. A. C. Locke. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

T. Hooper	£4,959	Courtney & Fairbairn	£4,776
Wall & Co.	4,872	H. L. Holloway	4,700
Godson & Son	4 800	Edwards & Medway*	4,677

* Accepted.

LONDON.—For alterations at the "Gipsy Queen" public-house, High-street, West Norwood, S.E., for Mr. Cubitt Cooke. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

W. Rowe	£584	T. Hooper	£483

Fittings.

W. Rowe	£646	Brown & Co.	£584

LONDON.—For alterations to the "King and Queen," Newington Butts, S.E., for Mr. W. H. Burney. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Minter	£3,389	Edwards & Medway	£3,147
Courtney & Fairbairn	3,305	T. Hooper	3 087
Pritchard & Renwick	3,250	Burman & Son*	3,152
W. Smith	3,179		

* Accepted.

Gasfittings.

Buckley & Beach	£163 14	Biggs & Co.	£154 8
W. Winn	159 7		

Pewtering.

J. Warne & Co.	£98 10	H. & F. Warne	£85 17

LONDON. — For rebuilding the "Essex Arms" beerhouse, High-street, Plumstead, S.E., for Messrs. Courage & Co. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

H. L. Holloway	£1,900	Wall & Co.	£1,733
T. Hooper	1,837	Courtney & Fairbairn	1,709
Pritchard & Renwick	1,762	Whitehead & Co.*	1,655
F. H. Hopkins	1,745	Parsons†	1,647

* Accepted.

† Withdrawn owing to rise in materials.

Fittings.

F. H. Hopkins	£253	Whitehead & Co.*	£230
Brown & Co.	232		

* Accepted.

Gasfittings.

Vaughan & Brown	£91 0	Buckley & Beach*	£86 10
W. Winn	89 0		

* Accepted.

Pewtering.

Warne & Co.	£77 10	Buckley & Beach*	£73 4

* Accepted.

LONDON.—For the erection of a store building at the Barking outfall works, for the London County Council :—

Thomas & Edge	£2,490 0 0	H. H. Sherwin	£2,270 0 0
G. Sharpe	2,363 0 0	E. Proctor	2,141 0 0
G. Munday & Sons	2,249 17 6	J. Jackson	2,60 7 0

LONDON.—For alterations at the "Branksome Arms" public-house, Branksome-road, Acre-lane, Brixton, S.W., for Mr. Henry Guy. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

B. Crook	£695	Little & Seneca*	£590
T. Hooper	679	Pharoah†	475

* Accepted. † Withdrawn.

LONDON.—Accepted for alterations to the "Green Dragon," Maddox-street, Regent-street, W., for Mr. W. J. Purser. Mr. Walter Hearn, architect, Grove Park West, London, W. :—

Beer & Gash, City-road, E.C. £630

LONDON.—For alterations to the "Nag's Head Tavern," Leather-lane, Holborn. Mr. Chas. R. Winter, architect, 119, Finsbury-pavement, E.C. Quantities by Mr. Henry Theobalds, 48, Finsbury-pavement, E.C. :—

Lawrence & Sons	£1,847	Todd & Co.	£1,783
Burman & Sons	1,845	Lascelles & Co.	1 781
Sparkes & Sons	1,837	Elkington & Co., Dalston*	1,620

* Accepted.

LONDON.—For the erection of stabling and horsekeeper's house at Turner-square, Hoxton, N., for the Hoxton Brewery Company, Ltd. Mr. Chas. R. Winter, architect, 119, Finsbury-pavement, E.C. :—

Lascelles & Co.	£1,172	Jarvis & Sons, Hackney-road*	£1,086
Sparkes & Sons	1,146		
Wilkinson Bros.	1,094		

* Accepted.

LONDON.—For alterations in converting shop and premises, South Kensington, into a dairy, for Lord Rayleigh. Mr. F. W. Adams, architect, 18, Eldon-street, E.C. :—

R. E. Clarke, Finsbury-pavement £325

LONDON.—For decorations and repairs to "Queenwood," Palace-road, Streatham, for Mr. W. Cambden. Mr. F. W. Adams, architect, 18. Eldon-street, E.C. :—

S. Blow, Royal Mint-street £270

LONDON.—For the reconstruction of sewers in Beantridge-street, &c., for the Mile End Old Town Vestry. Mr. J. M. Knight, Surveyor, Vestry Hall :—

Robert Jackson	£2,462 0 0	Joseph Jackson, Forest Gate (accepted)	£2,128 10 6
Killingback & Co.	2,322 0 0		

LONDON.—For rebuilding detached house, High-street, Bromley-by-Bow, E. Messrs. C. Foulsham and Herbert Riches, joint architects, 3, Crooked-lane, King William-street, E.C., and Bromley-by-Bow, E. :—

J. T. Robey	£724	Howlett & Son	£665
S. Salt	7 5	A. J. Sheffield	65
J. C. Edmunds	662	T. Osborn & Sons*	598

* Accepted.

LONDON.—For painting work, &c., at "The Prince of Wales," Stratford, E. Messrs. C. Foulsham and Herbert Riches, joint architects, 3, Crooked-lane, King William-street, E.C., and Bromley-by-Bow, E. :—

W. G. Brown	£199 15	J. T. Robey	£149 23
T. Osborn & Sons	174 0	A. W. Derby*	131 12

* Accepted.

LONDON.—For a new police-station at Lewisham, for the Receiver for the Metropolitan Police District. Mr. J. Dixon Butler, Architect. Quantities by Mr. W. H. Thurgood :—

Lawrance & Son	£9,267	Lascelles & Co.	£7,998
Holloway Bros.	8 970	Higgs & Hill	7,894
Smith & Son	8,189	Lathey Bros.	7 850
Perry & Co.	8,077	Graham & Co.	7,820
Grover & Son	8,045	Sydney Hart	7,467
T. Knight	8,003		

LONDON.—For the erection of stabling, warehouse, &c., at Rolls-buildings, Fetter-lane, E.C., for the London Parcels Delivery Co., Limited. Mr. Henry Poston, architect, 39, Lombard-street, E.C. :—

Colls & Son	£13,644	Patman & Fotheringham	£12,241
G. Todd & Co.	12,873	Hall, Beddall & Co.*	12,130
J. Mowlem & Co.	12,820		

* Accepted.

[Architect's estimate, £12,598.]

LONDON.—For the rebuilding of the Railway Tavern, Bridge-road, Stratford, for Mr. W. Davis. Mr. Henry Poston, architect, 39, Lombard-street, E.C. :—

Heasle & Farrow	£4,678	W. J. Maddison	£4,552
W. Norton	4,655	T. Welsh & Son*	4,369
G. Todd & Co.	4 591		

* Accepted.

LONDON.—For the erection of additions to gas-house at the East London Soap Works, Bow, E., for Messrs. Edward Cook & Co. Mr. Henry Poston, architect, 39, Lombard-street, E.C. :—

W. Sharman	£898	Yates	£791
T. Welsh & Son	801	J. Outhwaite & Sons*	790

* Accepted.

LONDON.—For erecting factory at Abbey-lane, Stratford, for Mr. J. Walter Smith. Mr Eugene C. Beaumont, architect, 78 Fleet-street, E.C. Quantities not supplied :—

J. Noakes	£385		
Taylor & Co., Portway, West Ham (accepted)	355		

LONDON.—For addition, alteration, and decorative work to No. 10, Upper Brook-street, for Mr. Palmer Tebb. Mr. Philip Todd, architect, 27, Half Moon-street, Piccadilly, W. :—

Lascelles	£3,728	Edwards & Medway	£3,122
F. Porter & Co.	3 595	Gregory	2,720
Kelland	3,180	Buckeridge	2,629

LONDON.—For rebuilding the "Rose and Crown," Tottenham Court-road, W., for Mr E. H. Stallard. Mr. W. M. Brutton architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

W. Rowe	£3,700	Courtney & Fairbairn	£3,495
Williams	3 587	Wall & Co.	3,478
W. Smith	3,533	Burman & Son	3,447
F. H. Hopkins	3,520	Edwards & Medway	3 390
T. Hooper*	3,503		

Fittings.

Brake & Aylard	£1,044	Brown & Co.	£915

Pewtering.

Buckley & Beach	£141 0	H. & F. Warne	£119 19
R. E. Lane	120 10		

* Accepted.

LONDON.—For alterations to the "Couch and Horses" public house, Strand, W.C., for Mr. W. F. Day. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Wall & Co.	£2,789	Edwards & Medway	£2,700
T. Hooper	2,775	W. Smith	2 685
H. Young	2,750	Lascelles & Co.	2,667
Burman & Son	2,749	H. L. Holloway	2,497
Courtney & Fairbairn	2,765		

Fittings.

Antill & Co	£2,992	Lascelles & Co.	£1,998
Courtney & Fairbairn	2,150		

Pewtering.

R. E. Lane	£176	H. & F. Warne	£149
H. Matthews	159	J. Warne & Co	124

LONDON.—For rebuilding the "Fitzroy Hotel" and chambers, Charlotte-street, Tottenham Court-road, W., for Mr. W. S. Dibbs. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural

Lascelles & Co.	£5 449	Wall & Co.	£5,849
H. Minter	5,427	T. Hooper	5,007
Edward & Medway	5,235	H. L. Holloway*	4 760
Courtney & Fairbairn	5,169		

Fittings.

T. Brown & Co.* £633

* Accepted.

LONDON.—For alterations at the "Cannon" public-house, Cannon-street, E.C., for Mr. J. H. Cross. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

F. H. Hopkins	£4,780	Antill & Co.	£4,189
Courtney & Fairbairn	4,715	Burman & Son	4,130
T. Hooper	4,629	Lascelles & Co.	4,134
Wall & Co.	4,250	H. L. Holloway*	3,784
Whitehead & Co.	4,210		

* Accepted.

Fittings.

Lascelles & Co.	656	Brake & Aylard	597

LONDON.—For cleaning, painting, and repairs, at the offices of the Board of Works for Poplar, High-street, Poplar, E. :—

W. Johnson	£969 4 0	Johnson Bros.	£793 10 0
T. H. Jackson	939 17 0	A. W. Derby	768 0 0
J. C. Jennings	926 18 0	Wright	782 12 0
G. Cordery	906 17 3	Vigor & Co.*	774 8 8
G. Whales	857 9 2	Gibb & Co†	697 10 0
J. T. Roby	797 0 0		

* Accepted. † Withdrawn.

LONDON.—For the erection of a chimney-shaft, 150 ft. high, in connexion with a new refuse destructor at Bull Head Dock, No. 173, Rotherhithe-street, for the Vestry of Rotherhithe. Mr. Norman Scorgie, Surveyor to the Vestry, Town Hall, Lower-road, S.E. :—

General Builders, Ltd.	£4,985 0 0		
Hy. Knight & Son, Tottenham, N.W.*	2,468 3 0		
Myles & Warner	2,251 3 10		

* Accepted.

LOSCOE.—For alterations and additions to Wesleyan Chapel, Loscoe. Mr. G. F. Pennington, architect, Central-chambers, Carlton-street, Castleford :—

Smith & Parker, Normanton £220

MARGATE.—Accepted for the erection of a pair of villas, Second Avenue, Clifton Ville, Margate, for Mr. W. J. Grimes. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Brown & Son, Margate £2,950

MORECAMBE.—For sinking a well, 12 ft. in diameter, in Acre Moss Field, for the electric light works, for the Urban District Council. Mr. J. Bond, Surveyor, Council Offices, Morecambe :—

Joseph Preston, Bruntcliffe, near Leeds*
John Edmondson
Alexander Tomlin
J. Ford
E. Timmins & Sons, Ltd.
} Schedule prices.

* Accepted.

NEWBURY.—For additions to the Atlas Brewery, for the South Berks Brewery Company. Mr. J. H. Money, architect, The Broadway, Newbury. Quantities by Messrs. R. L. Curtis & Sons, London-wall, Moorgate-street, E.C. :—

E. & H. James	£1,100 14	McCarthy E. Pitt, Reading*	£945 0
Pope & Co.	965 12	W. J. Bloxham, Banbury†	0 0
George Elms & Sons	925 0		

* Accepted provisionally. † Incomplete.

PELAW.—For 2,300 square yards of paving to roads on the Pelaw Building Estate. Mr. J. W. Fraser, architect, 49, Grey-street, Newcastle :—

J. W. White	£522 10	E. Keegan	£455 0

READING.—For levelling, paving, curbing, &c., Cranbury-road, for the Sanitary Authority. Mr. J. Bowen, Borough Engineer and Surveyor, Town Hall, Reading :—

W. Reeves	£1,442 15 0	F. Talbot	£758 13 0
Free & Sons	770 10 0	R. Pilgrim, Reading*	647 15 0

* Recommended for acceptance.

PLYMOUTH.—For the heating and ventilation of Municipal Buildings, for the Corporation. Mr. James Paton, Borough Engineer, Plymouth :—

Russell & Co.	£1,999 0 0	Garton & King	£1,414 0 0
Sugg & Co.	1,901 0 0	Berry & Campbell	1,326 0 0
J. King	1,857 0 0	W. T. Hocking, Plymouth*	1,194 0 0
E. Oldroyd & Sons	1,665 4 3	Langfield & Co†	810 0 0
Wood & Co.	1,626 4 9		

* Accepted. † Heating only.

PLYMOUTH.—For making up and completing Stenlake-terrace, and Stenlake-place, Little Prince Rock, for the Plymouth Corporation. Mr. James Paton, Borough Engineer, Municipal Offices, Plymouth :—

Stenlake-place.

A. N. Coles	£122 18 6	C. L. Duke, Ply-mouth (accepted)	£110 17 0
H. E. Skinner	101 6 6		

Stenlake-terrace.

H. E. Skinner	£447 3 0	C. L. Duke (accepted)	£408 8 0
A. N. Coles	438 17 4		

RESOLVEN.—For the erection of new schools for the Resolven School Board. Mr. J. Cook Rees, architect, St. Thomas-chambers, Church-place, Neath. Quantities by architect :—

D. Davies, Cardiff	£5,750 0
Rowland & Lloyd, Treslaw	5,095 0
Thomas, Watkins, & Co., Swansea	5,034 5
Bloxham, Banbury	4,997 0
W. Daniel, Crynant	4,888 16
E. Thomas, Seven Sisters	4,850 0
D. W. Rosser, Llansamlet	4,830 0
D. Jenkins, Swansea	4,699 0
Bennett Bros., Swansea	4,605 0
W. Williams, Pontypridd	4,497 0
H. Morgan, Llandore	4,222 0

[Architect's estimate, £4,840.]

ST. ANDREWS.—Accepted for widening and reconstructing Vishwell-road, St. Andrews, for the Llandaff and Dinas Powis Rural District Council. Mr. J. Holden, Surveyor, Council Offices, Queen's Chambers, Cardiff :—

James Wood, Whitchurch, Glam. £134 7 4

SHEFFIELD.—For the erection of stores, stabling, &c., at the corner of Abbeydale-road and Arnside-road, for the Ecclesall Industrial and Provident Society, Limited. Messrs. Hall & Fenton, architects, 10, Paradise-square, Sheffield. Quantities by the architects :—

H. Vickers	£3,528 0	T. Margerrison, jun., Church-street, Dronfield*	£2,858
M. Grantham	3,100 0		
Mastin & Son	2,789 0		
Thos. Roper	2,647 0		

* Accepted.

SOUTHEND.—For pulling down old buildings, and rebuilding the substructure of the "Railway Tavern," Scratton-road and Nelson-street. Messrs. Thompson & Greenhalgh, architects, Bank-chambers, Southend :—

H. J. Gater	£547 17 9	Davis & Leaney	£465 0 0
R. Jones	507 18 1	A. E. Symes	445 0 0
Baker & Wiseman	495 6 6	F. E. Woodhams	424 0 0
E. West	479 0 0	J. Shelbourne & Co.	413 0 0
S. Darke & Son	475 0 0	F. Dupont, Southend*	359 0 0

* Accepted.

STRATFORD-ON-AVON.—For the erection of new stores in Sheep-street, for the Stratford-on-Avon Co-operative Industrial and Provident Society, Limited. Mr. C. G. Hains, architect, Redditch. Quantities by Mr. Herbert R. Lloyd, Birmingham :—

John Harris	£1,530 0	Callaway Bros.	£1,295 0
John Roberts	1,350 0	E. J. Kennard, Strat-ford-on-Avon*	1,217 18
Smallwood & Co.	1,339 0		

* Accepted.

TONYREFAIL.—For the re-erection, additions, alterations, &c., shop and house, &c. Mr. I. J. Evans, architect, Penarth :—

M. R. Rowlands	£672 0	Samuel Evans, Tonyre-fail*	£652 0
Griffiths Bros.	650 12	Enoch Bros.	610 0

* Accepted.

WALTHAM CROSS.—For the erection of a laundry, dwelling-house, and stables, for Mr. J. Saban. Mr. F. W. Adams, architect, 18, Eldon-street, E.C. :—

W. Gardener, Waltham Abbey £1,330

WALTHAM CROSS.—For alterations and additions to house and shop, for Mr. J. Church. Mr. F. W. Adams, architect, 18, Eldon-street, E.C. :—

W. Gardener, Waltham Abbey £560

WALTHAM CROSS.—For construction of new road, Swan Field, for Mr. R. B. Colvin. Mr. F. W. Adams, architect, 18, Eldon-street, E.C. :—

W. Griffiths & Son, Bishopsgate-street, E.C. £995

WALTHAM CROSS.—For the erection of stables, for Mr. J. Hamilton. Mr. F. W. Adams, architect, 18, Eldon-street, E.C. :—

W. Gardener, Waltham Abbey £500

WEST HAM.—For rebuilding the "Steamship" public-house, Howards-road, Stratford, E., for Mr. G. Lee. Mr. W. M. Brutton, architect, Trafalgar House, Green-street, Trafalgar-square, W.C. :—

Structural.

Burman & Son	£3,111	Godson & Son	£2,896
H. L. Holloway	3,086	Pritchard & Renwick	2,856
R. E. Clarke	3,185	Dearing & Son	2,805
W. Smith	3,021	Courtney & Fairbairn*	2,733
Whitehead & Co.	2,899		

* Accepted.

Fittings.

Courtney & Fairbairn (accepted) £315

Pewtering.

Buckley & Beach ..... £103 | J. Warne & Co. (accepted) ..£99

Gasfittings.

W. Winn ..... £193 6 10 | Buckley & Beach* £183 12 0

* Accepted.

WEST HARTLEPOOL.—For erecting new premises, Park-road, for the Hartlepools Co-operative Society, Limited. Mr. James Garry, architect, 47, Church-street, West Hartlepool. Quantities by Mr. John Bulmer, West Hartlepool :—

Atkinson & Co.	£3,265 11 6	Watt Bros.	£2,763 7 7
T. Dickinson	3,018 19 0	T. Beetham	2,754 16 0
J. Howe & Co.	2,950 0 0	R. Watt, Thornston-street, West Hartle-pool (accepted)	2,671 0 0
J. Fryer	2,892 17 4		
J. Proud	2,821 19 6½		

WEYBRIDGE.—For the erection of stables at depot in Elm Grove-road, for the Urban District Council. Mr. J. S. Crawshaw, Surveyor, Weybridge :—

Stephen Brown	£455	William Greenfield*	£390
Charles Horsell	417		

* Accepted.

[All of Weybridge.]

WRITTLE.—For the erection of a class-room to the Highwood School, for the Writtle School Board. Mr. Mawhood, architect, Chelmsford. Quantities by architect :—

F. Johnson	£256 0	F. Moss, Writtle*	£220 0
H. Kennell	248 10	A. Woodward	215 10

* Accepted.

C.B.N. SNEWIN

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LONDON SCHOOL BOARD TENDERS.

THE following lists of tenders were submitted by the Works Committee at the last meeting of the London School Board :—

BLUNDELL-STREET.—Overhauling apparatus and providing additional heating surface and relief mains :—

J. C. & J. S. Ellis, Lim.	£195 0	Duffield & Co.	£120 0
J. Defries & Sons, Lim.	176 0	Vaughan & Brown, Lim.	120 0
J. Wontner-Smith, Gray & Co.	148 10	G. Davis	118 0
J. Grundy	120 9	W. G. Cannon & Sons*	117 0

GOPSALL-STREET.—Converting No. 1, Grange-street, into a schoolkeeper's residence :—

J. Grover & Son	£410	E. Lawrance & Sons	£357
W. Shurmur	395	G. Wales*	290
W. Martin	380		

LYHAM-ROAD.—Providing and fixing sectional boiler an auxiliary heating in three class-rooms, infants' department, and fixing hot-water radiators in corridors, boys', girls' and infants' departments :—

Strode & Co.	£229 0	W. Truswell & Son	£187 0
Ward & Nock	213 14	Duffield & Co.	172 0
C. Seward & Co.	210 0	Turner & Co.	166 10
Russell & Co.	194 0	E. Oldroyd & Co., Ltd.*	134 0
A. H. Skinner & Co	193 0		

* Accepted.

TO CORRESPONDENTS.

C. J.—W. T. (Below our limit).—A. S. (Amounts should have been stated).

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Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

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